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THE UNIVERSITY OF ALBERTA

PATIENT SATISFACTION: CONGRUENCY BETWEEN EXPECTATIONS AND PERCEIVED CARE RECEIVED, AND STABILITY OF THE CONSTRUCT OVER TIME

(C)

by

ELIZABETH J. WHITE

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF NURSING

FACULTY OF NURSING

EDMONTON, ALBERTA

SPRING, 1988

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31 May 1986

Mrs. Elizabeth J. White
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Dear Mrs. White:

Enclosed is a copy of the La Monica/Oberst Patient Satisfaction Scale. I will be happy to grant you permission to use the instrument after you have decided on a research title and the number of copies that you wish to duplicate.

I look forward to hearing from you and wish you the best on your research endeavors.

Thank you for your interest.

Sincerely,

Elaine L. La Monica, Ed.D., F.A.A.N.
Professor of Nursing Education and
Director, Institute of Research and
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ELL:e
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Most sincerely,

Elaine L. La Monica, Ed.D., F.A.A.N.

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled PATIENT SATISFACTION: CONGRUENCY BETWEEN EXPECTATIONS AND PERCEIVED CARE RECEIVED, AND STABILITY OF THE CONSTRUCT OVER TIME submitted by ELIZABETH J. WHITE in partial fulfilment of the requirements for the degree of MASTER OF NURSING.

Peggy Anne Field
Supervisor

M. Ruth Elliott

Magunie

Date: April 18, 1980

DEDICATION

To my parents for teaching me the value of faith and the value of education.

To my brother, David, for his sound advice.

To my sister-in-law, Ann, for her encouragement and assistance.

To my sister, for her assistance and understanding.

And especially to my husband for his patience and understanding, and for many hours spent typing early drafts of this thesis.

ABSTRACT

This study was designed to test the validity of the modified La Monica/Oberst patient satisfaction scale (LOPSS) and to test theory related to patient satisfaction. The modified LOPSS consisted of two scales, each 42 items in length. The first scale measured expectations for care. The second scale measured perceptions of care received. The 42 items were parallel items to allow for comparison between responses for each item. Both scales were completed by 150 postpartum mothers while still in hospital. The second scale was completed a second time by 120 of the same mothers at six weeks after delivery. Biographic data were collected for: ward, rooming-in, age, education, occupation, race, length of labor, type of labor, type of delivery, presence of a support person, parity, prenatal class attendance, planning of the pregnancy, postpartum complications, and type of infant feeding, at the time of the first measurement.

The validity of the modified LOPSS was tested by obtaining estimates of internal consistency and by obtaining factor analysis for each scale. Three subscales had been proposed, (i.e., dissatisfaction, interpersonal support, good impression) based on factors proposed by La Monica, Oberst, Madeau and Wolf (1986). Estimates of internal consistency were high for the total scale (i.e., .93 to .96) and for the subscales (i.e., .81 to .93). Factor analysis did not support the factors proposed, nor did new factors clearly emerge.

Two-way ANOVA procedures were used to test the theory that multiparas would be more satisfied than primiparas, and that perceived satisfaction with nursing care would decrease from the first

measurement to the second measurement. The results did not support the theory that multiparas would be more satisfied than primiparas but did support the theory that satisfaction would decrease with time.

Differences of one or less between expectation scores and satisfaction scores for any one item were found to range from 63.5 and 95.8 percent of responses. This would seem to suggest some relationship exists between expectations and satisfaction.

Using ANOVA procedures to test biographic variables, only differences between satisfaction means by type of delivery (first measurement) and by education (second measurement) were found to be significant.

ACKNOWLEDGEMENTS

It is with deep gratitude that I wish to thank Dr. Field for her assistance throughout my graduate studies and throughout this investigation. She has been both a teacher and guide. Most of all I would like to thank her for helping me believe in myself.

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To Dr. Maguire, I wish to express a special thank you. He was readily available when assistance was required throughout this investigation. Using his expertise in research and statistical analysis, he guided the planning, implementing and interpreting of the data analysis.

I am truly grateful to all the mothers who willingly gave of their time to complete the questionnaires. The postpartum period is filled with many demands requiring both time and energy so I value the time given by each mother.

For the typing of this thesis I would first like to thank my husband for typing each of the early drafts of the thesis and I would also like to thank Donna Nicol of Donnic Word Processing for typing the final copy of my thesis. For their financial support of this investigation, I wish to thank the Alberta Foundation of Nursing Research. I wish to thank Dr. E. LaMonica, Dr. M. Oberst, Ms. A. Madea and Dr. R. Wolf for permission to use the LaMonica/Oberst Patient Satisfaction Scale for this study.

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CHAPTER I

STATEMENT OF THE RESEARCH PROBLEMS AND THEIR SIGNIFICANCE

Introduction

Empirical study into the quality of care and patient satisfaction began in the 1950's (Abdellah & Levine, 1957a, 1957b, 1957c, 1957d; Lebow, 1974). However according to Locker and Dunt (1978), it took the consumer movement of the 1960's to really spark the interest in health-related consumer opinion.

Although a need for a theoretical basis for nursing care was recognized by Dickoff, James and Wiedenbach (1968), and McFarlane (1977), too frequently the instruments that have been used to evaluate nursing care have been identified as lacking the necessary estimates of reliability and validity (Knapp, 1985; Giovannetti, 1986; La Monica, Oberst, Madea & Wolf, 1986). Theoretical and methodological issues associated with most patient satisfaction studies have limited comparability and generalizability of the findings.

These issues led to the three research problems which have been addressed in this study. First, the conceptualization of patient satisfaction has seldom been tested even in the few studies where definitions were provided. Second, patient satisfaction has been described as multidimensional, yet findings from nursing studies have not demonstrated the separate existence of the proposed dimensions. Third, patient satisfaction studies have usually involved only one measurement by the respondent, yet there is little known about the stability of the construct over time.

Purpose

The purpose of this study was to provide empirically based information about the construct, patient satisfaction with nursing care.

Scope and Limitations

Theoretically this study could have been conducted in any area of nursing and across institutions. However this study was restricted to postpartum patients from one large teaching hospital. This area was chosen because it is an area where patients are basically well. The same group was measured twice, once on the second or third day after delivery and again at six weeks postpartum.

There were at least six limitations of this study. First, the instrument used in the study was designed to identify broad areas of satisfaction and dissatisfaction and should not be used to evaluate specific nursing action (La Monica, et al., 1986). Second, the La Monica/Oberst Patient Satisfaction Scale (LOPSS) (La Monica, et al., 1986) had only been tested with cancer patients. Third, the results may not be generalizable as only one hospital was included in this study. However the investigator knows of no reason to believe mothers at this hospital differ from mothers at other hospitals. Fourth, the use of survey data is limited by both the response rate and the care taken by the respondent when completing the questionnaires (Field & Houston, 1987). Fifth, retrospective measurement of expectations at the same time as patient satisfaction was measured may have resulted in some confounding of expectation and patient satisfaction measures

(Linder-Pelz, 1982b). Sixth, testing of the stability of patient satisfaction was limited by the use of only two measurements.

Research Objectives

There were four specific research objectives:

1. To determine if the LOPSS (La Monica et al., 1986), modified for a maternity population, was a reliable and valid instrument for the maternity care setting, (testing instrument applicability).

2. To determine by factor analysis if there was support for the new dimensions (i.e., dissatisfaction, interpersonal support, good impression) suggested by La Monica et al. (1986), (testing construct dimensionality).

3. To compare and contrast respondents' perceptions of nursing care at two to three days postpartum to their perceptions of nursing care when they were six weeks postpartum, (testing construct stability).

4. To compare and contrast the respondents' expectations of care to their perception of the actual care received, (testing Oberst's (1984) framework of expectations).

Overview of the Thesis

The following chapter presents a review of pertinent patient satisfaction literature in an attempt to demonstrate the importance of patient satisfaction research, to identify the associated theoretical and methodological issues, to identify associated factors, and to identify the most frequently used patient satisfaction scales. The

conceptual framework, definition of terms, hypotheses and research questions used in this study were developed in conjunction with the review of literature and are therefore included in this chapter. The third chapter describes the specific methods and data analyses procedures used in this investigation. The results obtained are presented and discussed in the fourth chapter. Recommendations arising from the research and a summary are provided in the final chapter.

CHAPTER II

REVIEW OF PERTINENT LITERATURE

Introduction

Interest in the issues of patient satisfaction has been well documented by numerous authors. The published articles have been written by various members of the health care team from administrators to consumers of health care (e.g., Levin & Devereux, 1986; McMillan, Younger & DeWine, 1986; Lemke, 1987). Most of the articles included in this review were based on nursing research (i.e., data systematically collected and reported) related to patient satisfaction (e.g., Hinshaw & Atwood, 1982; Bennett, 1985). While emphasis has been given to the maternal-child nursing studies, the review was not limited to this area of nursing since the construct, patient satisfaction, should ideally extend across all areas of nursing. In addition, articles and studies of patient satisfaction with medical care recently published or frequently cited were also included (e.g., Hulka, Kupper, Daly, Cassel, Schoen, 1975; Ware, Davies-Avery & Stewart, 1978; Stamp, 1984).

The review of the literature has been divided into four sections. The purpose of the first section was to demonstrate the importance of patient satisfaction research. The purpose of section two, on theoretical issues and methodological issues was to demonstrate the need for empirically based information about patient satisfaction. The purpose of including section three, on factors associated with patient satisfaction, was to indicate what factors

have been studied. The purpose of section four, on patient satisfaction scales for nursing care, was to support the choice of the LOPSS used in this study.

The framework, definition of terms, and hypotheses were based on findings from the literature review. For this reason, these sections have also been included in this chapter.

Importance of Patient Satisfaction Research

Basically all patient satisfaction research has been designed to evaluate care from the patients' perspective. Patient satisfaction research has been significant for a variety of reasons. Research has been conducted with the primary purpose of improving care. For example Kirchhoff (1986) was concerned with understanding aspects of care which only the patient can assess, in order to improve care for intensive care patients. Bradley, Brewin and Duncan (1983) were also concerned with improving care by increasing the accuracy between staff and patients' perceptions of discomfort. Patient satisfaction research has been conducted to evaluate a change in facilities (Forgan Morle, 1984; Shaw, 1985), to compare types of services (McClain, 1983; Lipsett, 1984; Porter & Macintyre, 1984; Carmel, 1985; Field, 1985; Humphrey, 1985), to compare organizational modes (Daeffler, 1975; Ventura, Fox, Corley & Mercurio, 1982; Sellick, Russell & Beckman, 1983; Shukla & Turner III, 1984), to evaluate programmes (Moore, Nunnally & Aguiar, 1974; Willmuth, Weaver & Borenstein, 1978; Bennett, Hewson, Booker & Holliday, 1985), and to evaluate specific aspects of care such as fetal monitoring (Beck, 1980; Garcia, Corry, MacDonald,

Elbourne & Grant, 1985).

For some researchers, the measurement of patient satisfaction was important only as far as patient satisfaction was believed to be related to increasing compliance or increasing facility utilization. For example, patient satisfaction research has been conducted with the primary purpose of increasing patient compliance (Stamp, 1984; Weisman & Nathanson, 1985). Administrators and medical researchers have often conducted patient satisfaction research with the primary purpose of marketing their facilities or clinics (Larsen & Rootman, 1976; Bauwens & Anderson, 1978; Carey & Posavac, 1982; Inguanzo & Harju, 1985a, 1985b; McMillan, Younger & DeWine, 1986; Lemke, 1987).

An important reason for conducting patient satisfaction research is to develop a theoretical basis for the construct, patient satisfaction. Unfortunately, the advancement of the theory of patient satisfaction has not been the focus of many researchers (Locker & Dunt, 1978; Ware, Davies-Avery & Stewart, 1978). From the articles reviewed, only Linder-Pelz (1982a, 1982b) conducted research with the primary focus being patient satisfaction theory development.

Theoretical Issues

"The state of the art is such that patient satisfaction theory should be held in as much question as patient satisfaction measures (Ware et al., 1978, p. 12). So much emphasis has been given to methodological issues related to patient satisfaction that theoretical considerations have been ignored in the majority of studies reviewed. Theoretical issues relate to three questions: (a) What is patient

satisfaction? (b) What factors contribute to patient satisfaction (or dissatisfaction)? (c) Is patient satisfaction a unidimensional or multidimensional construct?

Very few researchers provide the conceptual or operational definition(s) of patient satisfaction upon which their study is based. Notable exceptions include Tessler and Mechanic (1975), Linn (1975), Humenick and Bugen (1981), Thorpe (1981), Linder-Pelz (1982a), Field, Campbell and Buchan (1985), and La Monica et al. (1986). In reviewing over 100 studies, Ware et al. (1978) found inconsistencies in labelling this construct, such as attitudes, beliefs or perceptions. In this review, any study which requested the patient to evaluate some aspect of care was included.

A question of perspective has been raised. Have researchers truly been interested in the patients' perspective or have studies been biased by the provider in seeking caregiver endorsement (Kelman, 1976)? From the studies reviewed there was little evidence to suggest the consumer had been involved in the defining of patient satisfaction.

Most patient satisfaction studies have attempted to measure the influence of sociodemographic variables on patient satisfaction. Locker and Dunt (1978) contended that too much emphasis has been given to sociodemographic theory and not enough emphasis has been given to the social psychological theory of patient satisfaction. Some attempts have been made to measure social psychological factors as determinants of patient satisfaction such as continuity of care (Hulka, Kupper, Daly, Cassel & Schoen, 1975; Linn, 1975), expectations of care (Noyes, Levy, Chase & Udry, 1974; Pope, 1978; Linder-Pelz,

1982a, 1982b), and beliefs and values about care (Linder-Pelz, 1982b). Lebow (1974) suggested it would be inappropriate to measure patient satisfaction as a process or an outcome because perceptions are involved and are more complex than either a process or an outcome.

In theory development, one of the necessary steps is to define the boundaries of the construct of interest. Statements made relating patient satisfaction to dissatisfaction and quality of care, serve to remind researchers that patient satisfaction boundaries have not yet been established. For example, the possibility has been suggested that satisfaction and dissatisfaction may not be on the same continuum (La Monica et al., 1986). Pope (1978) suggested that satisfaction/dissatisfaction were not mutually exclusive because high ratings of patient satisfaction frequently have been accompanied by complaints. Pope further suggested the possibility of patient satisfaction and perceived quality of care as being two separate constructs. There is no guarantee that patients who agree with positively worded statements, and who indicated they received quality care, are actually satisfied (Risser, 1975).

Few of the patient satisfaction studies reviewed clearly communicated the theory or conceptual framework that was used in the study. This may be in part a reflection of the exploratory design used in many studies. The best use of a conceptual framework was reported by Greenley and Schoenherr (1981) in their testing of the influence of the organization and the effect of individual patient attributes on patient satisfaction. Their framework was explicitly stated and incorporated into all aspects of the study design.

Interpretation of results was clearly made in reference to the conceptual framework. Linder-Pelz (1982a, 1982b) clearly described the basis for her six hypotheses, the testing of which she saw as the first step toward a theory of patient satisfaction. These hypotheses were testing relationships between satisfaction scores, perceptions and attitudes. Perceptions were based on actual events, comparison of events, beliefs forming expectations and beliefs about entitlements. The study by Linder-Pelz did provide some support for expectations and values as social psychological determinants of patient satisfaction.

While most researchers did not explicitly identify their conceptual framework, a few researchers identified a framework but failed to show the link to patient satisfaction. For example, Shields (1978) tested theory proposed by Lesser and Keane (1956); that laboring mothers need physical care, relief from pain, support, safety, and acceptance; but did not clearly show how patient satisfaction was to fit with this theory.

Several researchers provided a form of conceptual framework through the testing of proposed dimensions (e.g., Hulka, Zyzanski, Cassel & Thompson, 1970; Risser, 1975; Ware & Snyder, 1975; Pope, 1978; Hinshaw & Atwood, 1982; La Monica et al., 1986). Ware et al. (1978) suggested that studies such as Hulka et al. (1975), and Ware and Snyder (1975), have shown the construct patient satisfaction to have several related dimensions. There has been little success in identifying dimensions of patient satisfaction in nursing studies. For example, La Monica et al. (1986) were unsuccessful in demonstrating the conceptualized dimensions but through factor

analysis suggested the possibility of three new dimensions (i.e., dissatisfaction, good impression, interpersonal support).

A dimension should contribute unique information about the construct which can be demonstrated by factor analysis (i.e., the items within the dimension should correlate higher with each other than with items in other dimensions). Each dimension should be clearly defined but most researchers have not provided definitions for the dimensions used in their research (Ware et al., 1978).

Methodological Issues

Several articles have been devoted to exposing commonly encountered methodological problems of patient satisfaction research (Lebow, 1974; Locker & Dunt, 1978; Ware, 1978; Ware et al., 1978; French, 1981; Ware, 1981; Stamp, 1984; Lumley, 1985). These methodological issues will be discussed under six headings: (a) method, timing and setting; (b) response rates; (c) measurement bias; (d) reliability and validity; (e) comparability; and (f) type of scoring and specificity of measurements.

Method, Timing and Setting

Discussions of issues related to method, timing and setting seem to center on how, when, and where to ask respondents to assess their satisfaction with care so that the highest returns and the most accurate responses can be obtained. Since patients' perceptions have been the object of measurement, the issue of method centers on the use of questionnaires and/or interviews, and the issues of timing and setting frequently center on facility and/or home.

A systematic review of method and setting used in patient satisfaction studies was conducted by French (1981). Overall, she found in-patient interviews close to the time of the event to yield the highest response rates, the richest data and the most criticism. Stamp (1984) and Lumley (1985) agreed with French that hospital surveys have the advantages of access and convenience but cautioned against using a resource person who is obviously a staff member since patients may not feel free to voice criticism. Forgan Morle (1984) suggested post discharge interviews would reduce the threat to patients and staff. She recommended selection of a time after the initial sense of gladness was gone, but to balance this with the expected loss of memory over time.

Use of questionnaires has also been supported. Lebow (1974) recommended the use of questionnaires when measuring perceptions or feelings. Locker and Dunt (1978) recommended the use of questionnaires for measuring dissatisfaction unless the dissatisfaction was expected to be major; then the use of the interview method would be appropriate. In a study of four groups, using different combinations of questionnaires and interviews for pre and post test measures of expectations and patient satisfaction, Noyes et al. (1974) found no differences between groups. Stamp (1984) indicated the setting should at least in part determine the method chosen (e.g., waiting rooms versus examining rooms).

Response Rates

Reporting of response rates is important for the interpretation of results because of systematic bias which can enter from non-

response (French, 1981).. However the results of some studies suggest there may be very little difference between respondents and non-respondents. For example, Cogan and Klopfer (1975) found no systematic difference between respondents and non-respondents reporting their experiences of childbirth. Information was collected on a group of women prior to delivery. A series of questionnaires were to be completed. Comparisons were made between respondents and non-respondents following each questionnaire.

Generally the response rates are higher for interviews than for questionnaires. However French (1981) indicated the differences in response rates between the two methods is not as large as it would first appear since the response rate for interviews generally does not include people excluded by criteria (e.g., unable to understand English), whereas those people excluded by criteria are often included in questionnaire response rates.

Mullner, Levy, Byre and Matthews (1982) found response to surveys conducted in hospitals increased when the questionnaire appeared to be shorter and began with questions that interested the respondents. Walker and Restuccia (1984) found little difference in response rates between interviews conducted by telephone and questionnaires sent by mail. They reported telephone interviews introduced proxy bias (i.e., someone responding on behalf of the patient) and resulted in expression of less dissatisfaction than mailed questionnaires. Therefore Walker and Restuccia recommended the use of mailed questionnaires. Goldsmith (1983) disagreed, not on the basis of response rates but because he found interviews to produce

richer data (e.g., reasons for responses could be explored).

Measurement Bias

Measurement bias is one of the most difficult charges for researchers studying patient satisfaction to defend. One of the difficulties arises from an uncertainty about the patients' point of reference when responding to a question (Lebow, 1974; Risser, 1975; Locker & Dunt, 1978; Pope, 1978; Oberst, 1984). Certainly the time period, to which the patient is to respond, should be made clear to the patient prior to responding (Locker & Dunt, 1978; Stamp, 1984). Other factors which may influence honesty or accuracy of response are: (a) social desirability (Raphael, 1967; Lebow, 1974; Locker & Dunt, 1978; French, 1981; Mangen & Griffith, 1982); (b) acquiescent response set (Ware, 1978); (c) item wording (Lebow, 1974; Pope, 1978; Ware, 1978; French, 1981); (d) implicit threat (Nehring & Geach, 1973; French, 1981; Lumley, 1985); (e) inability to discriminate between satisfaction with a variety of caregivers (Lebow, 1974; Moores & Thompson, 1986); and (f) deflection of true feelings (Abdellah & Levine, 1957b; Raphael, 1967).

Reliability and Validity

One of the criticisms of patient satisfaction research has been the failure of the majority of researchers to estimate and report the reliability and validity of the instrument (Lebow, 1974; Ware et al., 1978; Thorpe, 1981). A few studies include some evidence of seeking face validity. Face validity is desirable to be sure that the instrument appears practical (Mosier, 1967) and is clearly understood (Anastasia, 1982). However this is only the first step in

establishing reliability and validity, and is insufficient for hypothesis testing (Ware et al., 1978; Stamp & Finkelstein, 1981).

Failure to validate the instrument confounds the interpretation of results. Without an estimate of validity it is not possible to say if significant results are a measure of patient satisfaction or if failure to get significant results may be either due to a poor instrument or an incorrect theory (Ware et al., 1978). Oberst (1984) suggested that if a researcher truly wants to get at the patients' perspective then consumer input is required as the instrument is developed. Any development of a patient satisfaction instrument without consumer input would have questionable validity (Hulka et al., 1970). Some studies have provided evidence that the patient is a reliable source of information. For example, Turnbull (1984) found that patients waiting for antenatal care gave accurate estimates of time spent waiting. When responding to a questionnaire, one of the questions asked of respondents was to estimate how long they had had to wait to see the doctor. The receptionists kept a record of the actual time. The estimated and actual times correlated well.

Comparability

It is the lack of a consistent approach to the study of patient satisfaction and the failure to develop reliable and valid standardized instruments which has prevented meaningful comparisons between studies (Lebow, 1974; Locker & Dunt, 1978; Pope, 1978; Sellick, Russell & Beckman, 1983). Discussion relating to specific scales which have attempted to address these issues will be covered under the section on patient satisfaction scales.

When generalizability is important, Locker and Dunt (1978) have suggested the use of generic service items rather than situation specific items. Chute (1985) recommended minimizing control over situational variables to keep the setting natural. Kelman (1976) advocated population-based studies rather than facility or programme-based studies.

The majority of patient satisfaction studies have been based on samples of convenience. The use of randomization techniques (e.g., random assignment of patients to caregiver) whenever possible has been recommended (Lebow, 1974; Stamp, 1984). There is a need for a large sample size in patient satisfaction research (Lebow, 1974; Stamp, 1984, Combes-Orme, Rein & Dantes Ward, 1985), especially since a small or medium effect size is usually all that can be expected. In a review of maternal-child home visit studies, Combes-Orme et al. discovered the sample size employed in many of the studies allowed for minimal levels of power. Many of the patient satisfaction studies were descriptive in nature or have not provided sufficient information for power to be estimated.

Type of Scoring and Specificity of Measurement

The universally high ratings of patient satisfaction and the subsequent positively skewed results, have been described by Lebow (1974) as a threat to the internal validity of these studies. Lebow found respondents did not discriminate between items relating to quite different aspects of care, but gave a similar response to all items. Kirchhoff (1976) and Locker and Dunt (1978) have recommended researchers focus on the lower end of positively skewed results since

scores at the top represent respondents who are highly satisfied. McCorkle (1984) suggested finding some way to distinquish between respondents at the upper end of positively skewed results. The use of relative difference rather than absolute differences may have more meaning especially when conservatism of response is evident (Porter & Mcintyre, 1984).

Ware et al. (1978) advised the use of a multi-item scale using scale score analysis to increase reliability, validity, and variability because short instruments using single item score analysis have had poor reliability. The tendency has been to use single item score analysis as can be seen from Table 2.1. Nehring and Geach (1973) and Locker and Dunt (1978) reported better results had been achieved when patients were allowed to express overall satisfaction before expressing specific concerns. Global satisfaction questions have limited use for analysis due to lack of sensitivity and positive skewing (Locker & Dunt, 1978; Ware et al., 1978). Korsch, Gozzie and Francis (1968) recommended the use of both indirect and direct approaches to increase reliability. Lumley (1985) indicated indirect and subtle measures were needed to get at the fine points of patient satisfaction. Direct items may result in socially desirable responses (Ware et al., 1978).

Factors Associated with Patient Satisfaction

Few researchers have studied patient satisfaction from the same perspective. While this presents problems related to generalizability, reliability and validity, the varying perspectives have

Table 2.1

Maternal-Child Satisfaction Studies: Methods Used; General Measure or Dimensions; Direct/Indirect Measure; Unit of Analysis

Study	Method	Measure	Measure	Analysis
Avery, 1982	questionnaire	general	direct	item
Ball, 1981	questionnaire	general	indirect	index
Bauwens & Anderson, 1978	interview	general	direct	item
Beck, 1980	interview	dimension	indirect	index
Bennett, 1985	questionnaire /interview	general	direct /indirect	item
Bennett et al., 1985	questionnaire /interview	general	indirect	item /index
Birch, 1982	interview	dimension	direct	index
Bradley, Brewin & Duncan, 1983	questionnaire	general	direct	item
Bradley, Ross & Warnyca, 1983	questionnare	general	direct /indirect	item
Chute, 1985	questionnaire	dimension	direct	*item?
Clark, 1975	interview	general	indirect	item
Erb et al., 1985	questionnaire	dimension	indirect	item
Field, 1985	interview	dimension	direct	item
Foxman et al., 1982	interview	general	direct	item
Garcia, 1983	interview	dimension	indirect	item
Humenick & Bugen, 1985	questionnaire	dimension	indirect	index

Table 2.1 (continued)

Study	Method	Measure	Measure	Analysis
Humphrey, 1985	interview	general	indirect	*?
Kieffer, 1980	questionnaire	general	direct /indirect	item
Lipsett, 1984	questionnaire	dimension	indirect	item
Moore, 1983	questionnaire	dimension	indirect	item
Moore Nunnally, 1974	questionnaire	general	direct /indirect	item /index
Porter & Macintyre, 1984	interview	general	direct	item
Pridham & Schultz, 1983	questionnaire	general	direct	item
Shaw, 1985	questionnaire /interview	general	indirect	item
Shields, 1978	interview /questionnaire	dimension	direct	index
Sullivan & Beeman, 1981	questionnaire	general	*direct?	item
Turnbull, 1984	questionnaire	general	indirect	item
Willmuth et al., 1978	questionnaire	dimension	direct	item index

* Indicates unclear which was used

resulted in a wide variety of factors which have been considered in association with patient satisfaction. Only factors most pertinent to this study have been included in this section.

Sociodemographic Variables

The majority of patient satisfaction studies have tested a variety of sociodemographic variables but few clear trends have been found. There seems to be a trend towards satisfaction increasing with age (Abdellah & Levine, 1957a, 1957c; Raphael, 1967; Linn, 1975; Locker & Dunt, 1978; Pope, 1978; Beck, 1980; Carmel, 1985), although Pollert (1971) and Simpson (1985) found satisfaction to decrease with age. Positive correlations were found between patient satisfaction and: (a) size of social network (Carmel, 1985); (b) family health status (Pope, 1978); (c) perceived patient health state (Tessler & Mechanic, 1975; Oberst, 1984; Carmel, 1985); (d) positive past experience with organizations (Carmel, 1985); (e) positive information sources (Clark, 1975); and (f) continuity of care (Linn, 1975; Schroeder, 1977; Pope, 1978).

Communication

Poor communication between health care workers and patients may be the most common complaint of the hospitalized patient (Bradley, Brewin & Duncan, 1983). In the present review of the literature, insufficient and conflicting information or inadequate explanations were frequently cited as dissatisfiers (Abdellah & Levine, 1957a, Korsch et al., 1968; Houston & Pasanen, 1972; Ball, 1981; Mangen & Griffith, 1982; Pridham & Schultz, 1973; Lipsett, 1984; Oberst, 1984; Field et al., 1985). Communication, especially in the area of patient

teaching, must be of particular concern to nurses since patients do not identify nurses as being a good source of information (Oberst, 1984; Turnbull, 1984).

Care in Labor

The presence of the nurse during labor and delivery has been associated with increased satisfaction (e.g., Shields, 1978). Several other variables related to maternal-child nursing were found to be related to satisfaction such as: (1) type of delivery (e.g., Mercer & Stainton, 1984); (b) use of syntocinon (e.g., Shields, 1978); (c) length of labor (e.g., Shields, 1978); and (d) sense of control (Willmuth et al., 1985). However the relationship between these variables does not always seem direct. For example, Shields (1978), found primiparas were more satisfied when labor was short whereas Birch (1982) found the opposite relationship for primiparas. Birch suggested primiparas believed they did not have an opportunity to fully experience labor if labor was too short.

Explanations of High Ratings

Like the high ratings received in other areas of health care, there has been a tendency for women to give high ratings to maternal-child health care. Some suggestions for the processes used by women when making childbirth decisions and when evaluating care, have been offered as possble explanations of these high ratings. McClain (1983) used the term "bolstering" to describe the process whereby women faced with difficult decisions about childbirth begin to minimize the risks and maximize the benefits of the favored choice, while maximizing the risks and minimizing the benefits of the alternative choices, even

before the final decision is made. The mother-to-be, who is frequently inexperienced, must make decisions based on conflicting information. Bauwens and Anderson (1978) suggested that the conflict results in dissonance which women may choose to avoid by choosing home deliveries. The trend to women evaluating a childbirth service they have experienced higher than alternative services (Robinson et al., 1980; Humphrey, 1985), was called a conservation response by Cartwright (1964), and labelled "What is, must be best" by Porter and Macintyre (1984).

Stability of Patient Satisfaction

Few articles were found describing research testing the stability of patient satisfaction. Mangen and Griffith (1982) found patient satisfaction increased over time (i.e., on three measures taken at six month intervals after care). A decrease in recall of pain related to childbirth was found by Robinson et al. (1980) and Bennett (1985). On the other hand, Bennett (1985), Erb, Hill and Houston (1983) and Shaw (1985) found overall satisfaction to decrease over time (i.e., 3 weeks to 2 years; 0 - 6 months to 13 - 18 months; 1 week to 3 months). Feelings of relief and gratitude at having survived childbirth and having delivered a healthy baby may influence the mother's response close to delivery (Lumley, 1985). Time to gain perspective (Bennett, 1985) or put some distance between the event and time of measurement may be needed (Shaw, 1985). A definite change in concerns from two days postpartum to six weeks postpartum was reported by Rhode and Groenjes-Finke (1980). The change was from physical concerns, such as self care and infant care, to psychosocial concerns

such as family planning, family adjustment and depression.

Differing Patient/Staff Perceptions

A factor which has been included in several satisfaction studies is the difference in perceptions between patients and staff. For example: (a) staff reported more omissions in nursing care than were reported by patients (Abdellah & Levine, 1957d); (b) staff perceived psychosocial nursing activities as having more significance for the patient than was indicated by the patient (White, 1972); and (c) midwives tended to underestimate the unpleasantness of labor and delivery reported by the patient (Bradley, et al., 1983). Orleans (1985) cautioned against making assumptions about the patients' perspective on care. Lebow (1974) and McCorkle (1984) have suggested rationale for care be given if perceptions differ so that patients may be helped to change their perspective. Danziger (1979) has described this assumption, that patients should be the ones to change their perspective, as health care professionals exercise control over patients.

Patients' Expectations

There seems to be some agreement amongst researchers regarding the importance of the patients' expectations of care in relation to subsequent satisfaction. Approximately one quarter of the studies reviewed either included expectations as part of the theory to be tested (e.g., Weinberger, Green & Mamlin, 1981; Linder-Pelz, 1982a, 1982b; Oberst, 1984) or referred to expectations when interpreting the results (e.g., Field, 1984; Chute, 1985; Shaw, 1985; Moores & Thompson, 1986). Indirect measures of expectations have been made.

The study of exclusion (i.e., feeling excluded when care is given) and confirmation (i.e., receiving anticipated care) by Drew (1986) at least in part was a measure of performance which deviates from or adheres to expectations held by the patient (McMillan, Younger & DeWine, 1986).

Locker and Dunt (1978) suggested the relationship between patient satisfaction and expectation is not direct but that expectations are part of the process resulting in the patients' expressions of satisfaction. They indicated expectations are related to prior knowledge and experience and therefore are likely to change over time. Some examples of the effect of expectations on satisfaction are: (a) as congruence between expectations of intrapartum decision-making and actual decisions made increased, satisfaction increased (Birch, 1982); (b) as physician conformity to roles expected by the patient increase, patient satisfaction increased (Larsen & Rootman, 1976); (c) prenatal expectations were significantly related to labor and delivery evaluations (Humenick & Bugen, 1985); (d) patients were satisfied when care was better than expected (Noyes, et al., 1974); and (e) when comparing expectations to occurrences of physician care, expectations were found to be a significant determinant of patient satisfaction (Linder-Pelz, 1982b).

Rhode and Groenjes-Finke (1980) found primiparas had more concerns than multiparas which may lend support to the premise that prior experience is important to satisfaction. Oberst (1984) proposed a framework of expectations. This framework will be discussed within the conceptual framework section of this review.

Patient Satisfaction Scales

Few attempts to develop a standardized instrument for measuring patient satisfaction with nursing care have been reported. Nursing researchers have not reached the point of developing a standardized scale to measure patient satisfaction. However an important step towards development of a standardized instrument, that of repeated testing with large sample sizes, has been taken in the development of two patient satisfaction scales.

In the development of the first instrument, Abdellah and Levine (1957a, 1957b, 1957c, 1957d) collected data on 100 patients and all nursing and medical staff from three hospitals. The respondents were asked to complete open-ended forms describing aspects of care they believed to be important. As well group interviews of 40 patients were conducted. A scale was then constructed, followed by repeated testings and revisions until a final scale was produced. This scale was then tested at 60 hospitals for a total patient sample size of 8,000 and a total staff sample size of 12,000. Although testing of this instrument was extensive, estimates of reliability and validity were not reported. Abdellah and Levine (1964) do not recommend the use of this instrument for the clinical areas of nursery or labor and delivery because several items would not apply well to these areas.

The second instrument, first developed by Risser (1975) has subsequently been modified by Hinshaw and Atwood (1982) and La Monica et al. (1986). Risser (1975) developed the first draft of this instrument after interviewing patients, reviewing the literature, and

asking for suggestions from content experts. This first trial of the instrument tested the four proposed dimensions (i.e., technical-professional, intra-personal, trusting, educational) using a sample size of 78 primary care patients. Inter-item correlations obtained from the data of the first trial were used to revise the instrument with three proposed dimensions (i.e., technical-professional, trusting, educational). The second trial involved 60 primary care patients. Internal consistency for the total scale was high (i.e., .912). Using the recommended inter-subscale correlation range of $r = .55$ to $r = .70$ (Anastasi, 1976) as criteria for determining dimensionality, only the educational dimension qualified. The inter-subscale correlation of $r = .806$ for the techical-professional and trusting subscales indicated overlap in measurement.

Hinshaw and Atwood (1982) revised one item of Risser's patient satisfaction instrument (PSI) so that the PSI could be used for in-patient populations. Four testings of the PSI were then made with in-patients. The sample sizes were 57, 52, 309 and 88 respectively. Hinshaw and Atwood reported the PSI had been found to be internally consistent and stable across the four studies based on coefficient alpha, inter-item and item-subscale estimates. Few of the inter-subscale correlations met the criteria for dimensionality with the largest correlations again occurring between the technical-professional and trusting subscales. A convergent and discriminant strategy was used across studies to provide moderate to strong estimates of construct validity.

La Monica et al. (1986) revised items of the PSI to reflect the

care expected in an acute care facility. New items were added related to physical care and comfort measures. These areas had not been included by Risser (1975) since the PSI was originally designed for ambulatory patients. Content validity measures (e.g., use of a panel of experts) were used in the development of the new items. The PSI was composed of 25 items. The first testing of items by La Monica et al. (1986) was of 50 items, using a sample of 75 adult cancer patients. Items were scored on a 5-point (i.e., 1-5) Likert scale. Any items with a mean of ≥ 3.5 and a standard deviation of ≤ 1.11 were retained. Forty two items remained for the second testing of items. A sample of 100 cancer patients tested these items using a 7-point Likert scale. Alpha coefficients for this testing were high for the subscales and the total scale (i.e., .80 to .92). Based on the subscale to subscale correlations, there again appeared to be overlap between the technical-professional and trusting subscales. The modified PSI was given the name of the La Monica/Oberst Patient Satisfaction Scale (LOPSS). The LOPSS was tested using a sample of 710 cancer patients. Subscale alpha coefficients (i.e., .84 to .90) exceeded the criterion of .80 recommended by Nunnally (1978). The total scale alpha coefficient was .95. All subscale to subscale correlations were in excess of the .70 upper limit recommended by Anastasi (1976). A second instrument, the Multiple Affect Adjective Checklist (MAACL) (Zukerman & Lubin, 1965), cited in La Monica et al. (1986), was also used. The data collected from the MAACL enabled estimates of discriminant validity. However construct validity based on the conceptualized dimensions of patient satisfaction was not

obtained. Through factor analysis, three new dimensions were proposed (i.e., dissatisfaction, interpersonal support, good impression) for the LOPSS.

Conceptual Framework

The conceptual framework chosen for this study has been adapted from Oberst's Framework of Expectations (1984). Expectations were limited to (expectations of) hospitals and (of) health professionals in Oberst's framework. For purposes of this study patient expectations would be limited further to include only those expectations related to nurses and to nursing care. Basically Oberst's framework suggests as patients enter the health care system they bring with them many different characteristics, attitudes, and previous experiences. The patient also brings knowledge which may have resulted from information given by a health professional but also may be obtained from a variety of other sources such as the media, friends and family (Pollert, 1971; Clark, 1975). Together these factors influence patients as they define the situation in which they find themselves and recognize what they perceive to be their needs. It is by this process that patients form their expectations of the effects of care and the behavior of the nurses. As the care is provided and after the care is given patients will have their own perception of the care received. Oberst suggests that patients will assess their perceptions of care against their expectations of care. From this assessment a level of satisfaction results. For this study, the relationship between patient satisfaction and expectations is not

believed to be direct. Other factors are likely to contribute to the level of satisfaction and yet not fall under expectations. For example, the patient may not have expectations about continuity of nursing personnel or nursing care. Yet these factors may influence the perceived level of satisfaction. As well the personality of the nurse may influence the perceived level of satisfaction regardless of the match between expectations and perceptions of care. While these factors are recognized this study has not been designed to measure the influence these factors may have on the perceived level of satisfaction.

Support for the components of this framework comes from several sources. Hitchcock (1903), in her thesis "The Psychology of Expectation," indicated expectations are the beginning responses of human beings to new situational demands. These responses take the form of mental processes and result in specific ideas or images. These ideas or images substitute for future experiences. "The function of expectation is to pre-present objects and events so that the mind may be prepared to meet and use for its own ends the varied experiences of life" (Hitchcock, 1903, p. 87). She describes two forms of expectations (i.e., immediate, mediate). Immediate expectations are the result of primitive situation-response reactions. Mediate expectations are more stable than immediate expectations. The process behind the formation of mediate expectations is more complex than just a response to a given situation. Mediate expectations arise from a series of connected images formed in the mind. The process is influenced by knowledge,

cognitive processes, beliefs and attitudes. Mediate expectations are the focus of this study and are further divided into reproductive and constructive expectations.

Reproductive expectations can only result when the person has had a similar experience in the past. Constructive expectations occur when the situation is unfamiliar. In this study parity was the most likely source of differences in experience for the expectant mother. Hitchcock also makes a link between expectations and satisfaction/dissatisfaction by indicating unmet expectations often result in dissappointment. She suggested that expectations have no constant affective tone because expectations may be positive, negative or neutral.

Some researchers have done extensive research into expectations since Hitchcock's investigation in 1903, but none of the other theories reviewed were using expectations in the same context as this study. For example, the "Expectation States Theory" views expectations as the basis of power-prestige order when expectation states determine self performance in relation to others (Berger, Conner & Fisek, 1974; Berger, Fisek, Norman & Zelditch, 1977).

Individual differences (Jones, 1977) and more specifically status characteristics such as age, sex, race, and occupation (Berger et al., 1974) are believed to influence expectations. Expectations based on past experience are believed to be significant determinants of success or failure (Jones, 1977).

When a woman's childbirth experience moves from the present to become past experience, she may re-evaluate the care she received

based on new knowledge and expectations. Once the initial feelings of relief and gratitude experienced after childbirth diminish the mother may recall aspects of care received in the hospital less favorably than close to the time of delivery.

Definition of Terms

Patient satisfaction with nursing care - is the perceptions of the hospital care as measured by the modified LOPSS.

Primipara - a woman whose pregnancy is past 28 weeks gestation for her first child.

Multipara - a woman whose pregnancy is past 28 weeks and has already delivered at least one other baby.

Expectations - a preconceived idea of what was to take place (Oxford English, 1933), in terms of nursing care and nursing behavior as measured by the expectation scales of the modified LOPSS.

Perceptions - the immediate reaction of the mother to a set of conditions (i.e., nursing care received, and the nurses' behavior) that pertain to the present. Perceptions change as the set of conditions change (Bartley, 1958).

Hypotheses and Research Questions

In order to test the proposed theory four hypotheses were developed. In addition, two research questions were posed.

Hypotheses

1. The modified LOPSS will be found to be applicable to the maternity care setting.

2. Maternal satisfaction with nursing care will be found to have three dimensions (i.e., dissatisfaction, interpersonal support, good impression).

3. Maternal satisfaction with nursing care will decrease from two to three days postpartum to six weeks postpartum.

4. Multiparas will be more satisfied with nursing care than primiparas.

Research Questions

1. Are expectations related to maternal satisfaction with nursing care?

2. What biographic variables are associated with maternal satisfaction with nursing care?

CHAPTER III

METHODS AND PROCEDURES

Nature and Design

This study was exploratory in nature using an explanatory correlation approach (Waltz & Barker Bausell, 1981). The dependent variable was patient satisfaction with intrapartum, and postpartum nursing care. Patient satisfaction was measured twice using the respondents' overall mean for each measurement involving the patient satisfaction scale section of the modified LOPSS. For purposes of this study, postpartum nursing care refers only to the care received while in hospital.

The independent variables were expectations, parity and time. Expectations were measured by the expectations section of the modified LOPSS. Parity was asked on the biographic data sheet (see Appendix A). Time was measured by the difference between the two patient satisfaction measures. Support for these variables came from the conceptual framework. Related variables that were considered based on the findings of previous research were: (a) age (Linn, 1975; Carmel, 1985); (b) education (Linn, 1975; Ware et al., 1978); (c) occupation (Ware et al., 1978); (d) prenatal class attendance (Ball, 1981; Moore, 1983); (e) type of labor (Shields, 1978; Field et al., 1985); (f) length of labor (Shields, 1978; Birch, 1982); (g) type of anesthesia (Robinson et al., 1980); (h) type of delivery (Bradley, Ross & Warnyca, 1983; Erb et al., 1983); (i) type of infant feeding (Foxman, Moss, Boland & Owen, 1982; Lipsett, 1984); and (j) presence of a

support person (Humphrey, 1985).

The data were gathered at two points. The first set of data was gathered through a questionnaire administered while in hospital. The second set of data was gathered through a mailed questionnaire that was completed when the respondents were six weeks post delivery. In the remainder of this chapter, the setting, the sample characteristics, the instruments, the data collection procedures, and the data analysis plan are described.

Setting

The hospital selected for this study is located in Edmonton, Alberta, and as well as being part of a large teaching hospital complex, it has one of the largest maternity centers in Canada. The first part of the study was conducted between November and December 1986 on the three postpartum units and on the antenatal unit. Two of the postpartum units consisted mainly of four bed ward rooms. The other postpartum unit consisted of private and semi-private rooms. Each of the postpartum units provided rooming-in when requested by mothers. The antenatal unit was only used for postpartum mothers on an overflow basis. The setting for the second part of the study was in the respondents' homes. This part of the study began in December, 1986 and ended in March, 1987.

Sample Characteristics

A sample of convenience was used for this study for at least two reasons. First, since no systematic bias was expected, randomization

techniques were not essential. Second, the investigator was able to collect the sample quickly and with a certain amount of flexibility which allowed the investigator to meet work commitments. Stratification by parity was used to test the proposed theory related to differences in past childbirth experiences. No further stratification efforts were made because of the reduction of power that would result from each level of stratification. Instead biodemographic data were collected so that the sample could be examined for any bias that might be present.

In order to test theory a large, representative sample was needed. One of the reasons this maternity center was selected was because of the high birth rate which would ensure the availability of a large, representative sample.

When the sample size was selected, the anticipated effect size, the statistical tests to be employed, and the proposed alpha level had to be considered so that the power of the tests would be as high as feasible (Cohen, 1977). Another factor which had to be considered was feasibility for the investigator. For example, the ideal sample size assuming a small effect (as defined by Cohen, 1977, p. 13), an alpha =.05 (two-tailed test), and using the t-test would be 400 to achieve a power level of .81. Using the same criteria, the sample size chosen of 150 has a power level of .40. Using the same criteria, but a medium effect size, a sample of 150 results in a power level of .99.

A total of 205 postpartum women were approached for consent to participate in this study. Nineteen women (9 primiparas and 10 multiparas) refused to participate in the study. From the 186 women

who consented to be in the study, 150 questionnaires were returned for a response rate of 73 percent. The final sample size for the first part of the study was 148 (74 primiparas and 74 multiparas) as two questionnaires were only partially completed. All 148 women who completed the first questionnaire were sent the second questionnaire. A total of 120 women (60 primiparas and 60 multiparas) returned the second questionnaire by the cut-off date for a response rate of 81 percent.

The population from which the sample was selected was all eligible mothers delivering at this hospital over the study period. The exclusion criteria and rationale were as follows: the mother; (a) does not read or understand English (required to complete the questionnaire), (b) delivered a baby requiring admission to the neonatal intensive care unit (NICU) (difficulty in separating NICU care from other nursing care), (c) was hospitalized for antenatal care (difficulty in separating antenatal care from other nursing care), and (d) delivered a stillborn or had a neonatal death (difficulty in separating feelings of loss from other perceptions). Every woman, eligible to participate in the study, was approached on the second day postpartum until the quota of 75 primiparas and 75 multiparas had returned the first questionnaire. The biographic chracteristics of this sample are described below.

The mean age for this sample was as follows: (a) total group, 27.0 years (range = 15-39 years); (b) primiparas, 25.2 years (range = 15-39 years); and (c) multiparas 28.7 years (range = 19-39 years). The percentage of women in each range is shown in Table 3.1. The mean

Table 3.1

Age of Mothers by Parity

Mother's Age	Total Sample %	Primiparas %	Multiparas %
15-22	13.0	21.9	4.1
23-25	21.9	28.8	15.0
26-28	27.4	27.4	27.4
29-31	21.9	15.0	28.8
32-39	15.8	6.9	24.7
	100.0	100.0	100.0
Range	15-39	15-39	19-39

age difference between multiparas and primiparas was found to be significantly different ($p = 0.01$).

As was expected, education was higher in multiparas than primiparas, likely due to the age differences. Taken by years of education, the mean for primiparas was 12.75 years and for multiparas was 13.2 years. The difference between these means was not significant. Frequencies and percentages for education by parity are shown in Table 3.2. The education range was the same for multiparas and primiparas.

Occupations were categorized using the major groups from Statistics Canada's standard occupational classification (1981). Some collapsing of categories was used when frequencies were small. The category of "other persons" included housewives and students.

The categories for occupation used in the study appear in Table 3.3. Due to small numbers in some categories, comparison between occupations and by parity are presented in the form of frequencies and percentages in Table 3.3. The differences between primiparas and multiparas were small. More primiparas were classified as performing clerical duties or as students than multiparas. More multiparas were classified as holding administration/management positions, as teachers and as sales persons than primiparas. The differences could probably be attributed to differences in age between multiparas and primiparas (i.e., mean age 28.7 and 25.2 respectively).

Initially the investigator asked mothers who had consented to participate in the study their race. The reason for asking about race was questionned, one mother decided to withdraw her consent, a couple

Table 3.2

Education of Mothers by Parity

Mother's Education	Total Sample Frequency	%	Primiparas Frequency	%	Multiparas Frequency	%
Less than Grade 12	28	18.9	17	23.0	11	14.9
Grade 12	44	29.7	22	29.7	22	29.7
Greater than Grade 12, no degree	49	33.1	22	29.7	27	36.5
1 degree or more	27	18.3	13	17.6	14	18.9
Total	N=148	100.0	N=74	100.0	N=74	100.0
Range	8-19 years		8-19 years		8-19 years	

Table 3.3

Frequencies and Percentages by Occupational Category

Category	Total Sample Frequency	%	Primiparas Frequency	%	Multiparas Frequency	%
Clerical	43	29.0	26	17.5	17	11.5
Medical	20	13.5	10	6.8	10	6.8
Teacher	10	6.8	3	2.0	7	4.7
Managerial/ Administrative	15	10.1	4	2.7	11	7.4
Sales	13	8.8	5	3.4	8	5.4
Homemaker/Student	15	10.1	9	6.1	6	4.1
Service	22	14.9	11	7.4	11	7.4
Technical/Social Religious/Artist	10	6.8	6	4.1	4	2.7
Total	N=148	100.0	N=74	50.0	N=74	50.0

of husbands became defensive, and one woman was embarrassed by the question. For this reason the investigator used general categories such as Caucasian. Since 131 mothers fitted the Caucasian category, this factor was not useful for analysis. The criterion of needing to read and understand English reduced the number of eligible mothers of races other than Caucasian. Other ethnic origins represented in this sample includes Filipino, Polish, Canadian Indian, Chinese, Guyanese, East Indian, and Black.

Comparisons of the groups were made related to labor and delivery, and postpartum variables. Comparison of length of labor by parity is shown in Table 3.4.

The 26 cases delivered by cesarean were not included in this analysis. The frequencies for the type of labor and the type of delivery experienced by the respondents appears in Table 3.5. The majority of the respondents experienced a normal labor (68 percent) and a spontaneous delivery (73 percent). There was little difference between multiparas and primiparas for type of labor and type of delivery. The difference in incidence of forceps deliveries between primiparas (n = 12) and multiparas (n = 2) was significant (i.e., $x^2 = 7.88$, $p = .01$).

Two primiparas and 13 multiparas were not accompanied by a support person, however three of the multiparas were booked for a cesarean delivery. Based on a difference of two primiparas and 10 multiparas, there was a significant difference of support persons by parity (i.e., $x^2 = 6.17$, $p = .02$).

From the total sample, 82 percent of the women had attended

Table 3.4

Mean Length of Labor

Stage of Labor	Total Sample	Primiparas	Multiparas
Stage 1	5 hrs 52 min	7 hrs 51 min	4 hrs 16 min
Stage 2	29.6 min	45.2 min	14 min
Stage 3	6.7 min	6.4 min	7.1 min
	N=118	N=61	N=57

Table 3.5

Frequencies for Type of Labor and Type of Delivery by Parity

	Total Sample	Primiparas	Multiparas
a. Type of Labor			
Spontaneous	101	53	48
Augmented	4	3	1
Induced	32	17	15
*Total	137	73	64
b. Type of Delivery			
Spontaneous	108	51	57
Forceps	14	12	2
Cesarean Section	26	11	15
Total	148	74	74

* Totals equal 137 because 1 primipara and 10 multiparas had elective cesarean sections.

prenatal classes at some time. There was little difference in prenatal class attendance based on parity.

When asked if this pregnancy had been planned or not, 91 percent of the women (n = 133) indicated the pregnancy had been planned or was a pleasant surprise, seven percent (n = 11) could not decide and only two percent (n = 3) reported the pregnancy had not been a pleasant surprise. Based on a previous unpublished study by the investigator, the percent of women in this study reporting that the pregnancy had been unplanned was low. Data for the previous study was collected by interview.

The suggestion was made by a unit supervisor that the patient census list would be an appropriate place to check for any postpartum complications. Complications were written beside the mother's name as this census list was used when reporting to the supervisor. The investigator used this source but later learned from several sources (i.e., nurses and mothers) that this list was not always complete. The information reported on the patient census list was accurate for the previous day for which it had been written, but updating of the report to include complications which had happened that day was not always done. Also some women developed complications after the questionnaire was handed out. When the investigator learned of the complications after the questionnaire had been handed out, it was not possible to know if the questionnaire had been completed before or after the complication occurred. For these reasons the data related to postpartum complications have not been used. A possible solution in future would be to get the respondent to indicate at the time of

completing the questionnaire any complications she believed had occurred.

From the total group, 75 percent (n = 110) were breast feeding, 20 percent (n = 30) were bottle feeding, and five percent (n = 7) were using breast and bottle feeding. There was little difference in type of feeding by parity.

The Instruments

The process by which Risser's PSI (1975) was developed, tested and re-tested, and subsequently modified first by Hinshaw and Atwood (1982) and then by La Monica et al. (1986) has been described in the patient satisfaction scales section of the literature review. The estimates of reliability and validity for both the PSI and the LOPSS have also been reported in that section.

The factor analysis by La Monica et al. yielded three factors: dissatisfaction, interpersonal support, and good impression. Seventeen items loaded primarily on the dissatisfaction factor. All of these items were negatively stated and no negatively stated item was salient on the other two factors. Thirteen items loaded on the interpersonal support factor and 11 items loaded on the good impression factor.

Permission to use the LOPSS with modifications was requested from La Monica et al. (1986) and was granted. Modifications were required for two reasons. First the LOPSS was designed for use in the Oncology setting. Wording of some items referred to illness and the treatment program. Since childbirth is a normal biological experience

and few treatments are indicated, the wording of some items was changed to reflect the normality of childbirth. An effort was made to retain the content in each revised item. One item related to explanation of treatments was made into two questions to reflect the differences between labor and delivery care and postpartum care (see Appendix B, items 20 & 21).

In order to measure expectations as well as patient satisfaction, the LOPSS was revised. Each item was revised to ask the first respondents' expectations of nursing care (see Section I, Appendix B) and then the respondents' perceptions of nursing care actually received (see Section II, Appendix B). Some of the negatively worded items from the LOPSS did not make sense when asked from the perspective of expectations. For example, the first LOPSS item, "The nurse is not as attentive as he or she should be" seemed to be inappropriate when revised to "I expected the nurse not to be as attentive as he or she should be." For this reason some negatively worded items were revised to positively worded items. Using the same example, the wording chosen was "I expected the nurse to be attentive." To keep the scales parallel, the perceptions scale used the same item wording. Only the item stem differed between the two scales. Together these scales comprised the first questionnaire. The second questionnaire was a repeat of the perceptions scale found in the first questionniare.

Both questionnaires used the same 7-point Likert scale used in the LOPSS. Potential responses ranged from strongly disagree represented by a 1 to strongly agree represented by a 7. The

instructions were similar to those used by La Monica et al. (1986). The instructions were revised to explain that responses were to be made first from the perspective of their prior expectation of care and then from the perspective of care actually received (see Appendix B). The LOPSS included 41 items. The division of one item into two which was mentioned earlier resulted in 42 items per scale for the modified LOPSS. Due to an error in printing the numbers of the Likert scale were not printed beside Item 35. Several respondents skipped this item therefore it was eliminated from the analysis of all three scales. This left 41 items for analysis for each scale. The first negatively stated item (i.e., Item 6, expectations) may have confused some respondents. For example, some respondents perceived care to be excellent for all items except this item where care was rated as very poor.

Establishing the reliability and validity of the revised scale comprised the first part of this study. The results of the analysis are reported in Chapter IV.

Data Collection Procedures

Permission from the institution's research and ethical review committees was sought and obtained for the investigator to approach mothers to be in the study and to access the subjects' charts. Each day a list of all second day postpartum mothers was obtained from the census sheets. The charts for each of these mothers was then checked for subject eligibility. Each of the eligible mothers was approached and given a brief explanation of the study. She was informed that

consent to participate in the study involved the completion of the two questionnaires (i.e., one while in hospital, one at six weeks postpartum). Each consenting mother knew the investigator would collect information related to the study from her chart. Mothers were told that the number on the questionnaires identified her responses to the investigator but that this coding would not be disclosed to anyone else. Each mother was asked to read and sign two consent forms one of which she retained (Appendix C). The first questionnaire was handed out with an envelope.

Mothers were asked to complete the questionnaire prior to leaving the hospital. Specifically marked boxes were located at each nursing station and at the information desk in the hospital lobby. Mothers were asked to place completed questionnaires in the envelopes and seal them before placing the envelope in the designated boxes. Initially the investigator had asked that the boxes be placed in the mothers' lounge. The unit supervisors would not consent, asking that they be placed at the nursing station. On some units the box was placed at the back of the nursing station. Some mothers sought out the investigator to return the questionnaire rather than walk across the nursing station to place the envelope in the box.

The investigator approached all eligible mothers until 75 questionnaires were returned by multiparas. Primiparas, eligible for the study, continued to be approached until 75 questionnaires were returned. The investigator completed the biographic data sheet by asking mothers some questions such as their address and by referring to the chart in order to obtain additional data (see Appendix A).

The second part of the study began five weeks from the start of the study with a telephone call to each mother who returned the first questionnaire. The phone call served as a reminder of the second questionnaire and allowed the investigator to check the mailing address of each respondent. The second questionnaire was then mailed with a self-addressed, stamped envelope for the mothers to return the completed questionnaire. A cut-off date for the questionnaires to be returned was set as the beginning of March.

Data Analysis

Data gathered from the two questionnaires and biographic data sheet were analyzed using the SPSSX package, confirmatory analysis techniques, and proposed factor matching techniques. The data were analyzed as follows:

1. Testing for internal consistency of each scale and its subscales was completed using the SPSSX reliability commands to get estimates of internal consistency based on Cronbach's alpha model (SPSSX User's Guide 1986). If the modified LOPSS was to be found to be applicable for the maternity care setting, the internal consistency of the scales and subscales should be comparable to previous findings. As recommended by Nunnally (1978) an alpha of greater than .80 was required for the instrument to be considered applicable for this setting.

2. Factor analysis was used to test for construct validity using the SPSSX factor procedure. Since the proposed theory used the three dimensions proposed by La Monica et al. (1986), three factors

were asked for with the extraction technique. Varimax rotation technique was requested. The solution was then tested using confirmatory analysis techniques and the procrustes method was used to test alternate proposed factors.

3. Testing for differences in reported satisfaction over time and by parity was completed using the SPSSX two way analysis of variance repeated measures procedures.

4. The relation of expectations (measured on the first section of the first questionnaire), to patient satisfaction (measured on the second section of the first questionnaire and on the second questionnaire) was investigated. Comparisons between expectation responses and satisfaction responses were made to determine the percentage of agreement between expectation and satisfaction. Correlations between the expectation measure and the satisfaction measures were calculated.

5. Testing for the influence of other study variables on patient satisfaction was completed using the SPSSX analysis of variance procedure.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

The information presented in this chapter begins by determining the validity of the modified LOPSS in terms of its applicability for the maternity care setting and in terms of construct validity. The next section discusses testing of patient satisfaction theory. The last section discusses the relation of biographic variables to reports of satisfaction. Tables for this chapter are located in Appendix D.

Hypotheses

Hypothesis 1: The modified LOPSS will be found to be applicable for the maternity setting.

The first hypothesis, was tested by obtaining estimates of internal consistency. The design of this study permitted three separate testings of this hypothesis since both the expectation scale and patient satisfaction scale were modifications of the LOPSS, and two separate measurements were taken using the patient satisfaction scale. Each time the tool was used alpha coefficients were determined for the whole scale and for each of the proposed subscales (i.e., dissatisfaction, interpersonal support, good impression).

The number of cases used in the analysis of each scale varied for two reasons. First, the data from the expectation scale and from the first measurement of the patient satisfaction scale were obtained from a sample of 148 respondents while the data from the second

measurement of the patient satisfaction scale were obtained from a sample of 120 respondents. Second, any case with missing data was eliminated from analysis for the scale from which data were missing.

The data were examined for possible patterns of non-response. In only a few instances were data missing from the same item more than once. The item most frequently missed was item 21 which was not completed by four mothers when responding to the second questionnaire. This item related to explanations of procedures, treatments, and drugs after delivery. Due to the normal nature of the childbirth experience some women may have believed there were no procedures, treatments, or drugs they encountered postpartum for which explanations were necessary.

The results from internal consistency testing for each of the scales and subscales is presented in Table D.1. The number of items used for each analysis has been included as alpha is a function of the scale length (Waltz, Strickland & Lenz, 1984). The lowest alpha coefficient (i.e., .81) was found for the dissatisfaction subscale of the expectations scale. This result may have been affected by confusion of some respondents when responding to the sixth item. As has been mentioned this was the first negatively worded item.

The first hypothesis was supported since all the alphas exceeded the .80 criterion recommended by Nunnally (1978). The total scale coefficients of .933, and .958, and .963 were comparable to the alpha coefficients of .92 and .95 found by La Monica et al. (1986). Based on these results, there was support for the applicability of the modified LOPSS to the maternity care setting at least for this sample.

Although the major use of alpha coefficient is to demonstrate internal consistency of a scale, it can also be used to estimate the extent to which any one scale item can predict the response made for any other item on the scale (Waltz et al., 1984). Since this study was designed in part to test the multidimensional nature of the construct "patient satisfaction with nursing care" it was of interest to examine the alpha coefficients in terms of the proposed theory. Based on the high alpha coefficients obtained it seemed unlikely that support for individual factors would be found based on the modified LOPSS. The estimates of internal consistency were more supportive of the modified LOPSS as an unidimensional measure of patient satisfaction.

Hypothesis 2: Maternal satisfaction with nursing care will be found to have three dimensions (i.e., dissatisfaction, interpersonal support, good impression).

The second hypothesis, was tested using factor analysis techniques for each scale, and using Pearson product-moment correlations between the modified LOPSS subscales. The subscales were comprised of items belonging to each of the proposed dimensions (stated above). These proposed dimensions were based on the results of factor analysis obtained by La Monica et al. (1986).

Several factor analysis techniques were used to analyze data from this study. Each of the techniques used provided similar results (see Table D.2 for comparisons of these analyses). The principal axis method with iteration, varimax rotation, and pairwise deletion for missing values, (SPSSX, 1986) was selected to report these results

because this method also allows for comparisons between the results of this study and the results obtained by La Monica et al.

Three factors were specified in the analysis as this was the number of proposed factors. In the present analysis, the cumulated total variance accounted for by three factors was 48.3 percent (first satisfaction measurement). This compared to 93.7 percent of the cumulated total variance reported by La Monica et al. for the three proposed factors.

A difference between the LOPSS and the modified LOPSS may have contributed to the large difference in the amount of variance explained by the three factors. In the LOPSS, the dissatisfaction factor consisted of all the negatively stated items (n = 17 items). In the modified LOPSS only nine negatively stated items remained following modifications of the LOPSS. Analysis of data in the present study resulted in all the negatively stated items loading on one factor as had happened in La Monica et als'. study. However the amount of variance explained by the dissatisfaction factor using the modified LOPSS was 3.3 percent (first satisfaction measure) whereas using the LOPSS this factor explained 73.7 percent of the variance.

The investigator took the position that the 17 items loading on the dissatisfaction factor in La Monica et als'. study would factor together in this study even though eight items had been changed to positively worded items. An effort had been made to ensure content was left unchanged. This position was based on the belief that item content rather than item wording had determined factor loadings. However the results of this study did not support this position. With

the exception of one negatively stated item (no. 39 on the expectation measure) on only one method of analysis, every negatively worded item factored together without being salient on any other factor. In only one analysis (second satisfaction measure) did a positively worded item from the dissatisfaction factor (i.e., no. 9) load on another factor (i.e., .54). The failure of positively worded items to load on the dissatisfaction factor and the consistent loading of negatively worded items on a single factor seems to suggest that wording had more influence on the loading of these items than content.

Comparisons were made between factor loadings for the LOPSS and the modified LOPSS. For example, comparisons of factor loadings of items on the LOPSS and the modified LOPSS (first satisfaction measure) appear in Table D.3. The negatively stated items factored together to form one factor (the third factor) as has been stated above. All 11 items forming La Monica et als'. good impression factor loaded on the one factor (the first factor) in the present analysis (see Table D.4). However some of the positively worded items from the dissatisfaction factor and some of the interpersonal support items loaded on this same factor. The items remaining from the interpersonal support factor and dissatisfaction factor loaded together on the remaining factor, the second factor in this analysis. Using Nunnally's (1978) conservative loading criterion of .40, several items loaded on more than one factor (see Table D.3 and Table D.4). In the present analyses, most of the items found to be salient on more than one factor, were not salient on factor three, the dissatisfaction factor. This would seem to suggest from the present analysis that

factors one and two were not independent of each other but that factor three did demonstrate independence from the first two factors.

From the present analyses, items were ordered to facilitate assessment of the content for each factor (see Table D.4). Verbal communication predominated in the second factor items but were not isolated to this factor. No clear distinctions based on content could be made. The only clear distinction was negative wording of items loading on the third factor.

The comparisons described above were based on analysis of data from the first measurement of the modified LOPSS satisfaction scale where pairwise deletion was used for missing data. However similar comparisons could have been made from each set of analyses. As can be seen from Table D.5, the items loaded in a similar manner for both the satisfaction measurements and the expectation measurement.

The proposed factors, new factors and some additional hypothetical factors were subjected to confirmatory analysis techniques and procrustes methods in an attempt to provide support for the existence of separate dimensions of the construct. The hypothetical factors were based on the literature and previous clinical experience of the investigator. However none of the factors tested received sufficient support to be proposed as a separate dimension.

Based on the results of these analyses, no support was demonstrated for the three hypothesized factors. A further test using Pearson product-moment correlations between the proposed scales did not provide support for the dimensions either, as the intersubscale

correlations for the satisfaction scale all exceeded r = .70, the upper limit recommended by Anastasi (1976) as the criterion for determining dimensionality. The correlation between the dissatisfaction subscale and the other two subscales were within the r = .55 to .70 range for the expectations scale (see Table D.6).

While the results from this study do not support the multidimensional nature of the construct, patient satisfaction with nursing care, this does not necessarily mean the construct is unidimensional. The modified LOPSS may not be adequately sampling the construct's universe. The items may lack the sensitivity required in order for the respondent to discriminate when responding to an item causing the subject to respond to each item with the same general sense of perception towards the care received.

Hypotheses 3 and 4: Maternal satisfaction with nursing care will decrease from two to three days postpartum to six weeks postpartum. Multiparas will be more satisfied with nursing care than primiparas.

The third and fourth hypotheses were analyzed using a two-way analysis of variance repeated measures procedure (parity: primiparas versus multiparas, and time: immediate versus six weeks). The possible range of scores for satisfaction was from 1 to 7. As satisfaction means ranged from 5.60 to 5.98 (see Table D.7), they represented scores at the upper end of the scale. These high ratings are in keeping with the findings of other studies (e.g., Birch, 1981; Thorpe, 1981) and they are consistent with the mean of 6.007 reported by La Monica et al. (1986).

Based on the results of the two-way ANOVA procedures, the difference in reported satisfaction between the first measurement (two days after delivery) and the second measurement (six weeks after delivery) was significant (see Table D.8, $p < .01$). For the two measurements of satisfaction, each set of means calculated for primiparas, multiparas, and the total group were consistent with the hypothesis that reported satisfaction would decrease with time (see Table D.7). These results provided some support for this hypothesis. Possible explanations for the decrease in satisfaction with time come from the theoretical framework. For example, the feeling of happiness and gratitude felt close to the time of delivery may have dissipated. Further investigation would be required before an explanation could be given any credence.

The difference in reported satisfaction between multiparas and primiparas was not significant. Therefore the results did not support the hypothesis that multiparas would be more satisfied with nursing care than primiparas.

The results of the two-way ANOVA procedure did not support a significant interaction effect between parity and time even though multiparas reported less satisfaction on the first satisfaction measurement but more satisfaction on the second satisfaction measurement than primiparas (see Tables D.7 and D.8). The interaction was not significant because the differences in means by parity were so small.

For the first measurement, the difference in satisfaction means between primiparas ($\bar{X} = 5.60$) and multiparas ($\bar{X} = 5.70$) was still

small, but in the opposite direction. The smaller decrease in means for multiparas would seem to indicate that multiparas, although less satisfied with care than when they were in hospital, were less likely to alter their opinions than primiparas. This would be in keeping with the theoretcial framework of this study. Multiparas with previous childbirth experience would be more likely to have realistic and therefore more stable expectations of the care they would receive than primiparas.

Research Questions

Question 1: Are expectations related to maternal satisfaction with nursing care?

In order to answer this question, the responses on each item for the two satisfaction measures were compared to the response for each item for the expectations measure. The comparisons were based on whether the score for each expectation item and each satisfaction item varied by more than one point. Differences on any item of more than one point were taken to be important in light of the generally high degree of satisfaction reported overall. For example, if a respondent scored item one (see Appendix D) as 6 for expectations and 4 for satisfaction, the difference between the two scores was considered to indicate an inconsistency between expectations and satisfaction. However if a respondent scored item one as 6 for expectations and 7 for satisfaction, this was viewed as demonstrating a consistent relationship between expectations and satisfaction.

Frequencies and percentages were found for each item based on the number of individuals whose expectations scores and satisfaction

scores differed by one or less (see Table D.9). Expectations responses were found to be closely related to satisfaction responses for 76.2 percent of all responses (range 53.5% to 95.8%). Expectations responses were more closely related to satisfaction responses for the first measurement (i.e., 79.1%) than the second measurement (i.e., 73.2%). Possibly this may be attributed to the completion of the expectations questionnaire and the first satisfaction questionnaire at the same time while the second satisfaction questionnaire was completed six weeks later. Possibly there was a correlation between errors of measurement for expectation scores and satisfaction scores on the first measurement which artificially increased that correlation.

Correlations between expectations scores and satisfaction scores did not adequately reflect the relation between expectations and satisfaction (see Table D.6) for two reasons. First, the results for each scale were positively skewed. For example, on the first item, a score of six or seven accounted for 82.4 percent, and 85.8 percent of the expectations and of the first satisfaction responses respectively. Second, differences in scores between expectations and satisfaction were often only one point apart but as the response could fall on either side of the perfectly matched responses, these scores tended to cancel each other out. For example, for the first item, there were 20 responses of 7 for expectations and 6 for satisfaction, while there were 17 responses of 6 for expectations and 7 for satisfaction. While differences between expectations scores and satisfaction scores (first measurement) were one or less, for 85.7

percent of the responses to the first item, the correlation for this item was r =. 14 ($p < .05$).

The percentages of agreement between expectations and satisfaction would seem to support the findings of researchers such as Larsen and Rootman (1976), Birch (1982), Linder-Pelz (1982), and Humenick and Bugen (1985) that expectations are related to patient satisfaction. However these findings also support Locker and Dunt's (1978) position that the relationship between expectations and patient satisfaction is not direct. If expectations were the primary determinant, the satisfaction correlations between the scales should have been higher (see Table D.10).

Question 2: What biographic variables are associated with maternal satisfaction with nursing care?

This question was addressed by comparing the satisfaction levels for different groups based on the biographic data collected for the study. Most of the biographic variables were tested using ANOVA procedures to see if systematic differences between groups were present.

For most biographic variables, the differences in means were too small to achieve significance (see Table D.11). There were two exceptions found, one from the first satisfaction measure and one from the second satisfaction measure. Satisfaction means (first measurement) reported by mothers who had forcep deliveries were significantly higher ($\bar{x} = 6.32$) than satisfaction means reported by mothers who had spontaneous deliveries ($\bar{x} = 5.91$) or cesarean deliveries ($\bar{x} = 5.78$, $p = .05$). However this result must be viewed

with caution as only 9.4 percent of mothers had forcep deliveries (n = 14).

Education was the only variable found to have a significant difference between groups for the second measure of satisfaction. No significant difference was found for any one group, however a contrast of the first and fourth groups against the second and third groups was significant at the p = .01 level (see Table D.12). This result suggests mothers with the least and the most education were more likely to express satisfaction than mothers with grade 12 education or higher but who had not received a degree. No clear trend has been found in the patient satisfaction literature. From a review of the medical satisfaction literature Ware et al. (1978) suggested a possible trend for satisfaction to decrease as education decreased. Linn (1975) found patients with some high school or less to report higher satisfaction than patients with more education.

An observation about the difference between means for the first and second measures of satisfaction should be made. With the exception of the satisfaction means for persons who had no support person (i.e., Time 1 $\bar{x}$ = 5.6, Time 2 $\bar{x}$ = 5.61), for every other biographic variable the mean decreased over time (see Table D.11). This suggests that the effect of time on satisfaction is relatively independent of the effects of all the variables measured in this study.

There are several possible reasons why few significant differences were found for the biographic variables. Possibly the variables studied have little effect on satisfaction. If there truly were differences to be found, the fault could be in the design of the

study. Some variables were assigned several levels which leads to a reduction in power (e.g., age groups by satisfaction). The lack of sensitivity of the items and positive skewing of responses meant only a small to medium effect size could be expected. The sample size when combined with several levels of a variable, would decrease the probability of detecting significant differences.

No clear trend emerged from the testing of the biographic variables. Further testing would be needed to see if type of delivery, and education are associated with patient satisfaction.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

In order to provide some empirically based information about the construct, patient satisfaction with nursing care, this study was designed with consideration for the many problems which have plagued patient satisfaction research in the past. For example, to improve the reliability and validity of measurement, scale scores were used for analysis rather than the single item analysis which has often been used. In this chapter, the degree to which the investigator was successful in overcoming some of the weaknesses reported in earlier studies is discussed. Implications for nursing and recommendations for future research are included.

Comparability and Generalizability

This study was designed to allow for comparability between studies. Comparisons of results from this study those of La Monica et al. (1986) were possible because the same instrument, with some modifications, was used in both studies. Similar analytical procedures were used in this study to those used by La Monica et al. to permit comparisons of results between the studies. The estimates of internal consistency for both studies suggest the LOPSS has applicability across different areas of nursing, across institutions, and for respondents who are either healthy or ill, although further study would be required to support this finding. Results from this

study have limited generalizability because only one area of nursing in one hospital was sampled. The use of general service items (e.g., I expected the nurse to make sure I understood the importance of any treatments) rather than specific care items (e.g., I expected the nurse to make sure I understood the importance of fetal monitoring) permitted comparison across two very different nursing settings but did not provide information for specific care changes.

Construct Validity and Item Wording

A criticism of past patient satisfaction studies has been that without estimates of reliability and validity it was impossible to tell if failure to get significant results was due either to poor theory or to a poor instrument (Ware et al., 1978). In this study, estimates of internal consistency were obtained providing a measure of internal coherence of the instrument. Part of the study design was to examine the construct's dimensionality. The investigator believed support for the three proposed dimensions (i.e., dissatisfaction, interpersonal support, good impression) would bring satisfaction research a step closer to establishing the boundaries of the construct. This belief was based on the idea that once theory has been clearly established, what is within the construct boundaries will begin to be evident. However, factor analysis did not provide support for the proposed dimensions, nor was clear evidence obtained to propose new factors.

When evidence gathered from different sources converges in support of the same conclusion about some aspect of a construct this

strengthens the confidence in the construct (Kerlinger, 1973). To date, few reliable and valid instruments have been developed to measure patient satisfaction with nursing care. In this study, only one source was used (i.e., data collected using the modified LOPSS) so that it was not possible to elicit convergent evidence for the construct.

The question as to whether satisfaction/dissatisfaction are part of the same continuum also raises the issue of construct boundaries. Thorpe (1981) and La Monica et al. (1986) have suggested response to negatively worded items is different from response to positively worded items. If dissatisfaction could be shown to be outside of the satisfaction construct this would begin to establish the boundaries of the patient satisfaction construct.

In this study, using factor analysis procedures, all negatively worded items behaved differently from positively worded items. That is, negatively worded items all loaded on one factor with none of the positively worded items loading on this factor. La Monica et al. (1986) had reported the same finding. However, several of the negatively worded items from the LOPSS had been changed to positively worded items on the modified LOPSS with no change in content for these items. Since item wording rather than item content seem to determine loading for the dissatisfaction factor, this finding does not provide much support for La Monica et als'. (1986) position that dissatisfaction may be on a different continuum than satisfaction. Thorpe (1981) suggested negatively worded items introduce measurement bias by confusing respondents and thereby altering their responses.

Negatively worded items were included in the LOPSS after the first study conducted by La Monica et al. (1986) to reduce the measurement bias of acquiescent response set. La Monica et al. (1986) suggested patients maybe uncomfortable about disagreeing with positively worded items but might find it easier to respond honestly when responding to negatively worded items.

Since direct measures of patient satisfaction tend to result in socially desirable responses (Ware et al., 1978) indirect item wording from the LOPSS was retained in the modified LOPSS. However, for most items, statements were clearly positive or negative. Respondents wishing to make socially desirable responses would have had little difficulty in determining the appropriate response to make.

Study Variables: Time, Parity, Expectations

From the literature review, the investigator suggested there were three main theoretical questions arising from the theoretical issues. The first question, "What is patient satisfaction with nursing care?" was not directly addressed in this study. The second question, "Is patient satisfaction a unidimensional or multidimensional construct?" has already been addressed above, in relation to the results obtained using the modified LOPSS in the particular setting of this study. The third question, "What factors contribute to patient satisfaction?" has been addressed, in part, by including time, parity, and expectations as study variables and by including biographic variables such as age as part of this study. Many other study variables could have been included. For example, nurse related

variables such as job satisfaction may influence reported levels of patient satisfaction.

Time

To test the stability of the construct over time, two measurements of patient satisfaction were taken five to six weeks apart. The findings of this study were similar to the findings reporting by Bennett (1985), Erb et al. (1983), Lumley (1985), and Shaw (1985), in that respondents reported a decrease in satisfaction over time. In this study no attempt was made to find the reasons behind a decline in patient satisfaction with nursing care over time. There are several possible explanations of why perceptions of nursing care had changed from close to the time of delivery until six weeks after delivery. First, the feeling of happiness and gratitude felt close to the time of delivery (Lumley, 1985) may have dissipated. Second, fear of reprisal might have influenced some responses to the first questionnaire (completed in hospital) but should not have influenced responses to the second questionnaire (completed at home). Third, mothers' concerns could have changed (Rhode & Groenjes-Finke, 1980) between the time of the first and second measurements, thereby altering the respondents' perceptions of care received. None of these explanations or other explanations can be considered to be valid without further investigation.

Parity

The design of the study allowed for comparisons to be made between multiparas and primiparas. Through the conceptual framework, the investigator suggested that primiparas would have more concerns

than multiparas. As well, the suggestion was made that prior experience would influence expectations and that expectations would have some influence on satisfaction. These suggestions were taken another step to form a hypothesis suggesting multiparas would be more satisfied with nursing care than primiparas. Support for this hypothesis was not obtained. The study design did not include comparing the number of concerns expressed by primiparas and by multiparas, nor was the relationship of prior experience to expectations explored. More study would be needed to know if the conceptual framework has value in explaining the construct, patient satisfaction with nursing care. It is possible that the items used lacked sensitivity necessary to have detected a difference if one was present.

Expectations

After delivery, mothers were asked to recall the expectations they held prior to delivery. Mothers were asked to respond from the perspective of the care they had actually expected to receive. However, it may have been difficult to respond accurately to expectation items for several reasons. First, it may have been difficult to recall their expectations. Second, their expectations may have been altered through childbirth experience making it difficult to recall accurately those expectations held prior to delivery. Third, it may not have been clear that what was asked for was not the respondent's ideal expectations of care. Fourth, it may have been difficult for respondents to separate their expectations of care they actually expected to receive from their ideal expectations

of nursing care. Fifth, it may have been possible that some respondents had not had an opportunity to form an expectation concerning some of the items to which they were asked to respond. The respondents might then have been forming an expectation as they read the item or have formed the expectation through the childbirth experience. In either case, the response would not be made based on expectations held prior to delivery. A prospective measurement of expectations may have been more accurate since recall of expectations would not have been necessary. Also a greater effort could have been made to ensure the respondents clearly understood the response perspective of the investigator.

Parts of the conceptual framework were tested by making comparisons between groups for satisfaction responses and by making comparisons between expectations responses and satisfaction responses. A comparison between primiparas' and multiparas' satisfaction was used as an indirect test of Hitchcock's (1903) theory of constructive and reproductive expectations. Support for this theory was not obtained from this study. The comparison between expectations responses and satisfaction responses was intended to test the theory that there is a relationship between expectations and satisfaction but that the relationship is not direct. This theory originally suggested by Locker and Dunt (1978), was included as part of the conceptual framework of this study. There was not a strong correlation between expectations responses and satisfaction responses but expectations responses did correspond closely to satisfaction responses in that the majority of expectations responses and

satisfaction responses were within a point of each other for every item. This correspondence between expectations scores and satisfaction scores provided some support for the expectations part of the conceptual framework.

Biographic Variables

A criticism of past patient satisfaction research has been that too much emphasis has been given to sociodemographic variables and not enough emphasis has been given to psychosocial theory (Locker & Dunt, 1978). The study variables described above (i.e., time, parity, expectations) were chosen in an attempt to look beyond biographic variables for different factors related to patient satisfaction with nursing care. While parity was technically a biographic variable, this variable was chosen for the differences in childbirth experiences rather than from the biological perspective of how many fetuses a woman carries to term. The reason for including biographic variables was to be able to estimate the degree to which study variables may have been confounded by these selected variables. Like the previous patient satisfaction studies reviewed by Ware et al. (1978), no clear relationships were found between any of the biographic variables and patient satisfaction in this study.

High Ratings

Patient satisfaction research has been criticized for the universally high ratings reported by respondents. Lebow (1974) suggested these high ratings threaten the internal validity of patient

satisfaction studies. This threat is statistical in nature since positive skewing may result in violation of some statistical assumptions. It was not the purpose in this study to investigate the reasons why satisfaction ratings have historically been high, therefore, the investigator can only speculate as to the reason for the high ratings reported in this study. For example, the modified LOPSS may have lacked the sensitivity of items required to minimize positive skewing of ratings. This positive skewing of ratings together with loss of power when several levels of a variable (e.g., 9 levels of occupation) were used, may have prevented some true differences from being found to be significant. However, positive skewings and loss of power did not mask the small but consistent decline of patient satisfaction with time reported across variables and variable levels.

The high ratings reported in this study may have been a true reflection of maternal satisfaction with nursing care. However, several respondents chose to communicate concerns about care to the investigator verbally while their questionnaire responses indicated they were highly satisfied with nursing care. For example, several respondents expressed concern about the poor care given to their roommates but indicated their own care had been good. Other respondents expressed the view that some nurses sounded like tape recordings when doing patient teaching. Several multiparas wanted to be given credit for having some knowledge of baby care while other multiparas wished to be given the same information they believed primiparas were receiving. From those respondents who verbally

communicated several concerns to the investigator only one of these respondents expressed a lack of satisfaction with nursing when responding to the modified LOPSS. Risser (1975) has cautioned that positive responses to positively worded statements does not guarantee the patient is satisfied.

High ratings may have been influenced by implicit threat. Several respondents requested the investigator remain in the room while they completed the questionnaire. Some respondents covered up the questionnaire when nurses entered the room. One mother clutched the questionnaire to her chest and looked embarrassed while her nurse was present. This same mother stated it was hard to be honest knowing the nurses might see her responses before she could get the questionnaire safely to the investigator. Several respondents sought out the investigator to return their questionnaire rather than have to leave the questionnaire in the box placed at the nursing station.

Implicit threat should have been minimized at home. However, high ratings were obtained for the second measurement of satisfaction even though the ratings had declined from the first satisfaction measurement.

General Comments of Respondents

Several respondents indicated they had great difficulty in responding to the questionnaire because nursing care varied so much between nurses. Notes were left on a couple of questionnaires to indicate responses had been made based on the care provided by most nurses but that responses would have been lower if they had been

responding to the care provided by certain nurses they had encountered. On one unit, five mothers expressed concerns about nursing care on the same day. One of these mothers believed the nurses had gone out of their way to be particularly antagonistic to the mothers. She believed a completed changeover in staff from one day to the next day resulted in poor communication. For example, she indicated staff members tried to reteach what had already been taught and that some of what was taught conflicted with the previous teaching.

This study was not designed to investigate the effect of individual nurses on maternal satisfaction. Some respondents indicated it would be easier to respond to items if only one nurse was involved. Other respondents stated they were glad they were to respond to nursing care in general because they would prefer not to have to evaluate any one nurse.

Incidental Findings

There were a variety of reasons why findings for some biographic variables were of limited value. For example, inclusion of one ward which is used on an overflow basis resulted in too small a number of respondents (n = 4) for meaningful comparisons to be made using this ward. The means of 5.08 for the first satisfaction measure and of 4.91 for the second satisfaction measure were well below the total group means of 5.95 and of 5.65 respectively. However, because of the small number of respondents it was not possible to know if these results were representative of most mothers who receive postpartum care on that unit.

Data collected for the rooming-in variable had little meaning because like the findings of Field and Houston (1987) both respondents and nurses were using a variety of definitions for rooming-in. For example, some respondents believed they had rooming-in if they fed their babies in their rooms while other respondents believed they did not have rooming-in unless the baby remained with them 24 hours a day.

While there was a wide range of satisfaction means by occupation, the small numbers of respondents per occupational category limited meaningful comparisons of these differences in means. For example, the difference in means of 5.38 (n = 13) for administrators and managers and of 6.05 (n = 9) for teachers was not significant because the numbers of respondents was too small (second satisfaction measure).

Comparisons by race could not be made because of small numbers of respondents in categories other than caucasian. The requirement for respondents to be able to read and understand English reduced the number of respondents in other categories. Stratification according to race, and use of interpreters might be necessary if sufficient numbers of respondents are to be obtained for comparisons in future research.

The least stable group of respondents in reporting satisfaction was the group of mothers who had their labor augmented. These mothers reported a mean of 6.40 on the first measurement and 5.68 on the second measurement of satisfaction. However this group consisted of only four respondents which was too small for statistical comparisons to be meaningful.

Mothers who had cesarean deliveries reported less satisfaction (Time 1 $\bar{x}$ = 5.78, Time 2 $\bar{x}$ = 5.39) than mothers who had forcep deliveries (Time 1 $\bar{x}$ = 6.32, Time 2 $\bar{x}$ = 6.00). However the number of respondents in each of these levels for type of delivery was small (forceps n = 14 & 13, cesarean n = 26 & 23).

Mothers unaccompanied by a support person (n = 15, primiparas = 2, multiparas = 13) gave stable reports of their perceptions of nursing care received (Time 1 $\bar{x}$ = 5.6, Time 2 $\bar{x}$ = 5.61). The first measurement of satisfaction for these respondents ($\bar{x}$ = 5.6) was well below the group mean ($\bar{x}$ = 5.95). Respondents in this group were the only group to report an increase in satisfaction from the first measure to the second measure.

The problem basic to each of the findings above was an inadequate sample size. In addition, stratification was not attempted for any variable other than parity. If any of the variables were to be treated as major study variables, stratification would be necessary to ensure similar numbers for each level of a variable.

The use of the respondents perceptions of whether postpartum complications had occurred prior to completing the questionnaires would probably reflect what was intended to be measured in this study. That is, if mothers perceived there had been complications, their responses might have been altered.

Although the response rate was good, the placement of boxes for questionnaire returns at the nursing station may have intimidated some respondents. Placement of the boxes in some place which would not be likely to intimidate the respondents such as the patient lounge is

recommended for future research.

Implications for Nursing

No specific care recommendations can be made from the results of this study. What the findings from this study indicate is that patient satisfaction with nursing care is not a well-defined construct at present. Perhaps the focus should not be placed on finding one general measure of satisfaction. Possibly the emphasis should be on satisfaction with specific components of care. Implications for nursing relate primarily to the need for further research because the items on the modified LOPSS were not designed for specific care evaluation.

Recommendations for Further Research

Further research is needed before a theoretical basis for the construct, patient satisfaction with nursing care, can be established. A number of different approaches could be used in future patient satisfaction research. Based on the results and experiences of this study, and supported by the patient satisfaction literature, it is recommended that the following issues be addressed in future patient satisfaction research:

1. Need for reliable and valid instrduments to measure satisfaction with specific components of nursing care.

Since satisfaction scales composed of general service items such as the LOPSS seem to be susceptible to threats to internal validity, such as acquiescent response set and lack of sensitivity, and result

in positive skewing of responses, perhaps future research should move away from general service items to specific components of care items. From these specific components it might be possible to propose new dimensions for the patient satisfaction construct. Also instruments designed to measure specific components of nursing care would be useful in that specific care recommendations could be made from study results. So long as the specific copmonents of care were not institution specific, development of reliable and valid instruments and the use of replication studies would allow for comparability and generalizability in future patient satisfaction research.

2. Need for careful examination of research goals and objectives were selecting the appropriate instrument for future research.

Use of the LOPSS would be appropriate in situations where general information about the construct, patient satisfaction with nursing care, was to be obtained. For example, further testing of the stability of the construct across areas of nursing and across institution could be appropriately investigated using the LOPSS.

Use of the LOPSS would also be appropriate when major differences in treatments were being studied such as differences in type of labor or type of delivery. However to look at differences between groups with these variables, the sampling method would require stratification to ensure there were sufficient numbers of respondents in each category of variable used so that the study would have sufficient power for significant results to be found if they exist.

3. Need for further testing of the effect of item wording.

To establish if negative wording significantly alters responses

to an item, parallel forms need to be designed. Each item would need to be worded both positively and negatively while retaining the same content. Equal numbers of positively and negatively worded items could appear on each form. Comparison of responses could then be made.

4. Need for further testing of the stability of patient satisfaction.

Replication of this study would help to establish whether a decline in patient satisfaction with time could be generalized. Also repeated testing at several time intervals would help to establish whether patient satisfaction continues to decline in relation to time. Reasons for a decline in patient satisfaction by six weeks after delivery could be studied. The possibility of there being a change in concerns from a few days after delivery to six weeks after delivery could also be explored.

5. Need for further testing of Oberst's framework of expectations (1984).

A more accurate measurement of expectations held prior to delivery would involve a prospective design rather than the retrospective design used in this study. To test the validity of the proposed framework a study testing the relationship between each component (e.g., between experience and expectations) would need to be designed.

6. Need for emphasis on psychosocial variables.

When designing future patient satisfaction research consideration should be given to choosing psychosocial variables (e.g., expectations, continuity of care) as the major study

variables. Since no clear trends have been found using socio-demographic variables, these variables should only be included to demonstrate if any confounding of the major study variables is occurring.

7. Need to study the reasons behind high ratings.

Several theories have been proposed to explain high maternal satisfaction ratings such as "bolstering" by McClain (1983), and "what is, must be best" by Porter and Mcintyre (1984). A study could be designed to check for validity of these theories.

8. Need to explore the effect of individual nurses on patient satisfaction.

A study designed so that patients made responses to items based on care provided by one nurse might allow for greater sensitivity of response. Also the effect of the nurse on satisfaction might be estimated.

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APPENDIX A:

BIOGRAPHIC DATA SHEET

APPENDIX A

BIOGRAPHIC DATA SHEET

To be completed by investigator after consent obtained.

Background Information:

1. Name: _____
2. Address: _____
3. Telephone Number: _____
4. Ward: _____ 5. Rooming-in: Yes _____ No _____
6. Age of Participant: _____
7. Last completed grade at school: _____
   Further education: Yes _____ No _____
   If yes, please specify: _____
8. Occupation prior to pregnancy: _____
9. Ethnic Origin: _____

Labor and Delivery Information:

1. Length of Labor: First Stage _____ h _____ min
   Second Stage _____ h _____ min
   Third Stage _____ h _____ min
2. Type of Labor: Spontaneous _____
   Augmented _____
   Induced _____
3. Type of Delivery: Spontaneous vaginal _____
   Operative vaginal _____
   Cesarean section _____
4. Epidural: Yes _____ No _____ 5. Support Person: Yes _____ No _____
6. Parity: Primipara _____ Multipara _____ 7. Prenatal Classses Yes _____ No _____
8. Was this pregnancy: Planned _____
   A pleasant surprise _____
   An unpleasant surprise _____
   Other _____

Postpartum Information:

1. Uncomplicated _____ Complicated _____
   If complicated, please specify _____
2. Breast feeding: Yes _____
   No _____
   Other _____

APPENDIX B:

MODIFIED LA MONICA/OBERST PATIENT SATISFACTION SCALES

(NUMBER ONE AND TWO)

APPENDIX B

MODIFIED LA MONICA/OBERST PATIENT SATISFACTION SCALE NUMBER 1

Instructions to the Respondent

The following sections each contain 42 statements about Registered Nurses. In the columns next to the statements are seven possible responses. For each statement decide how much you agree or disagree with the view expressed and circle the number under the response that comes closest to your opinion. "Strongly Disagree" and "Strongly Agree" are reserved for those opinions on which you have no exceptions. "Neutral" means equally "yes" and "no".

There are no right or wrong answers. Since people differ in their views, your response should be your personal opinion. Please try to recall the care you expected to receive from the nurses when completing the first section. For the second section, please form your opinions based upon your general impression of all Registered Nurses with whom you have had contact during labor, delivery and postpartum. It is extremely important that your responses are honest.

Please now try these examples:

No.	Items	STRONGLY DISAGREE	DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	AGREE	MODERATELY AGREE	STRONGLY AGREE
I expected the nurse to:										
A.	have a neat appearance.	1	2	3	4	5	6	7		
B.	be too busy to talk.	1	2	3	4	5	6	7		

The staff at this hospital know that we are asking for your help, and they support this study. However, the information you give us will be strictly confidential and under no circumstances will your responses be shared with the nursing staff. The information they will receive will be based on all the responses taken together.

Thank you very much for your time and your help. You have had a part in making nursing care more satisfactory for mothers having babies in the future.

Section I

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	I expected the nurse to:							
1.	be attentive.	1	2	3	4	5	6	7
2.	be skillful in doing her work.	1	2	3	4	5	6	7
3.	make helpful suggestions.	1	2	3	4	5	6	7
4.	use the information I gave her.	1	2	3	4	5	6	7
5.	treat me with respect.	1	2	3	4	5	6	7
6.	take more interest in getting the tasks finished than in listening to my concerns.	1	2	3	4	5	6	7
7.	follow through quickly with her care for me.	1	2	3	4	5	6	7
8.	recognize my need for physical care and see that I received it.	1	2	3	4	5	6	7
9.	be friendly.	1	2	3	4	5	6	7
10.	explain things in a manner that is easy to understand.	1	2	3	4	5	6	7
11.	enjoy caring for me.	1	2	3	4	5	6	7
12.	give my care her priority while she was with me.	1	2	3	4	5	6	7
13.	be impatient.	1	2	3	4	5	6	7
14.	communicate her willingness to answer questions.	1	2	3	4	5	6	7
15.	give complete explanations.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	I expected the nurse to:								
16.	treat me more like a "case" than as an individual.	1	2	3	4	5	6	7	
17.	talk down to me.	1	2	3	4	5	6	7	
18.	provide the kind of care that would encourage me to return to this hospital if I were to have another baby.	1	2	3	4	5	6	7	
19.	answer my call signal promptly.	1	2	3	4	5	6	7	
20.	tell me all she could about what to expect during labour and delivery.	1	2	3	4	5	6	7	
21.	tell me all she could about the procedures, treatments and drugs used after delivery.	1	2	3	4	5	6	7	
22.	tell me things which would conflict with what the doctor would tell me.	1	2	3	4	5	6	7	
23.	be pleasant to have around.	1	2	3	4	5	6	7	
24.	to keep her promise if she told me she would return.	1	2	3	4	5	6	7	
25.	know what to do in an emergency.	1	2	3	4	5	6	7	
26.	show me how I could care for myself and the baby.	1	2	3	4	5	6	7	
27.	allow me to share my feelings if I needed to talk to someone.	1	2	3	4	5	6	7	
28.	do things which would make me more comfortable.	1	2	3	4	5	6	7	

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	I expected the nurse to:							
29.	be thorough.	1	2	3	4	5	6	7
30.	be disorganized and flustered.	1	2	3	4	5	6	7
31.	make sure I understood the importance of treatment and medications.	1	2	3	4	5	6	7
32.	make me feel better by talking to me.	1	2	3	4	5	6	7
33.	help me understand the childbirth experience.	1	2	3	4	5	6	7
34.	be available if I needed support.	1	2	3	4	5	6	7
35.	know what she was talking about.	1	2	3	4	5	6	7
36.	act like I could not understand the medical explanation of the childbirth experience when, in fact, I really could.	1	2	3	4	5	6	7
37.	disregard my opinions and preference regarding my plan of care.	1	2	3	4	5	6	7
38.	be gentle in caring for me.	1	2	3	4	5	6	7
39.	be reluctant to give me assistance when I needed it.	1	2	3	4	5	6	7
40.	give directions at just the right speed.	1	2	3	4	5	6	7
41.	understand me if I shared my problems.	1	2	3	4	5	6	7
42.	make me feel secure when she was giving me direct care.	1	2	3	4	5	6	7

Section II

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
1.	the nurse was attentive.	1	2	3	4	5	6	7
2.	the nurse appeared to be skillful in doing her work.	1	2	3	4	5	6	7
3.	the nurse made helpful suggestions.	1	2	3	4	5	6	7
4.	the nurse used the information I gave her.	1	2	3	4	5	6	7
5.	the nurse treated me with respect.	1	2	3	4	5	6	7
6.	the nurse seemed more interested in getting the task finished than in listening to my concerns.	1	2	3	4	5	6	7
7.	the nurse did follow through quickly on her care for me.	1	2	3	4	5	6	7
8.	the nurse recognized my need for physical care and saw that I received it.	1	2	3	4	5	6	7
9.	the nurse was friendly.	1	2	3	4	5	6	7
10.	the nurse explained things in a manner that was easy to understand.	1	2	3	4	5	6	7
11.	the nurse appeared to enjoy caring for me.	1	2	3	4	5	6	7
12.	the nurse gave the impression that my care was her priority while she was with me.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
13.	the nurse was impatient.	1	2	3	4	5	6	7
14.	the nurse communicated her willingness to answer questions.	1	2	3	4	5	6	7
15.	the nurse gave complete explanations.	1	2	3	4	5	6	7
16.	I felt more like a case than an individual with the nurse.	1	2	3	4	5	6	7
17.	the nurse talked down to me.	1	2	3	4	5	6	7
18.	the nurse provided the kind of care that would encourage me to return to this hospital if I were to have another baby.	1	2	3	4	5	6	7
19.	the nurse answered my call signal promptly enough.	1	2	3	4	5	6	7
20.	the nurse told me all she could about what to expect during labor and delivery.	1	2	3	4	5	6	7
21.	the nurse told me all she could about the procedures, treatments, and drugs used after delivery.	1	2	3	4	5	6	7
22.	the nurse told me things that conflicted with what the doctor told me.	1	2	3	4	5	6	7
23.	the nurse was pleasant to have around.	1	2	3	4	5	6	7
24.	the nurse kept her promise when she told me she would return.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
25.	I was confident that the nurse would know what to do in an emergency.	1	2	3	4	5	6	7
26.	the nurse showed me how I could care for myself and the baby.	1	2	3	4	5	6	7
27.	the nurse allowed me to share my feelings when I needed to talk to someone.	1	2	3	4	5	6	7
28.	the nurse did things that made me more comfortable.	1	2	3	4	5	6	7
29.	the nurse was thorough.	1	2	3	4	5	6	7
30.	the nurse seemed disorganized and flustered.	1	2	3	4	5	6	7
31.	the nurse made sure I understood the importance of treatment and medications.	1	2	3	4	5	6	7
32.	the nurse made me feel better by talking to me.	1	2	3	4	5	6	7
33.	the nurse helped me to understand the childbirth experience.	1	2	3	4	5	6	7
34.	the nurse was available when I needed support.	1	2	3	4	5	6	7
35.	the nurse really seemed to know what she was talking about.	1	2	3	4	5	6	7
36.	the nurse acted like I could not understand the medical explanations of the childbirth experience when, in fact, I really could have.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	AGREE	STRONGLY AGREE
	Considering the care I received:									
37.	the nursed failed to consider my opinions and preferences regarding my plan of care.	1	2	3	4	5	6	7		
38.	the nurse was gentle in caring for me.	1	2	3	4	5	6	7		
39.	the nurse seemed reluctant to give me assistance when I needed it.	1	2	3	4	5	6	7		
40.	the nurse gave directions at just the right speed.	1	2	3	4	5	6	7		
41.	the nurse understood me when I shared my problems.	1	2	3	4	5	6	7		
42.	I felt secure when the nurse was giving direct care to me.	1	2	3	4	5	6	7		

Source: Adapted from the LaMonica/Oberst Patient Satisfaction Scale.

MODIFIED LA MONICA/OBERST PATIENT SATISFACTION SCALE NUMBER 2

Instructions to the Respondent

Following are 42 statements about Registered Nurses. In the columns next to the statements are seven possible responses. For each statement decide how much you agree or disagree with the view expressed and circle the number under the response that comes closest to your opinion. "Strongly Disagree" and "Strongly Agree" are reserved for those opinions on which you have no exceptions. "Neutral" means equally "yes" and "no".

There are no right or wrong answers. Since people differ in their views, your response should be your personal opinion. Form your opinions based upon your general impression of all Registered Nurses with whom you were in contact during labor, delivery and postpartum. It is extremely important that your responses are honest.

Please now try these examples:

No.	Items	STRONGLY DISAGREE	DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	AGREE	STRONGLY AGREE
Considering the care I received:										
A.	the nurse had a neat appearance.	1	2	3	4	5	6	7		
B.	the nurse was always too too busy to talk with me.	1	2	3	4	5	6	7		

The staff at the hospital where you delivered know that we are asking for your help, and they support this study. However, the information you give us will be strictly confidential and under no circumstances will your responses be shared with the nursing staff. The information they will receive will be based on all the responses taken together.

Once again, thank you very much for your time and your help. You have had a part in making nursing care more satisfactory for mothers having babies in the future.

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
1.	the nurse was attentive.	1	2	3	4	5	6	7
2.	the nurse appeared to be skillful in doing her work.	1	2	3	4	5	6	7
3.	the nurse made helpful suggestions.	1	2	3	4	5	6	7
4.	the nurse used the information I gave her.	1	2	3	4	5	6	7
5.	the nurse treated me with respect.	1	2	3	4	5	6	7
6.	the nurse seemed more interested in getting the task finished than in listening to my concerns.	1	2	3	4	5	6	7
7.	the nurse did follow through quickly on her care for me.	1	2	3	4	5	6	7
8.	the nurse recognized my need for physical care and saw that I received it.	1	2	3	4	5	6	7
9.	the nurse was friendly.	1	2	3	4	5	6	7
10.	the nurse explained things in a manner that was easy to understand.	1	2	3	4	5	6	7
11.	the nurse appeared to enjoy caring for me.	1	2	3	4	5	6	7
12.	the nurse gave the impression that my care was her priority while she was with me.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
13.	the nurse was impatient.	1	2	3	4	5	6	7
14.	the nurse communicated her willingness to answer questions.	1	2	3	4	5	6	7
15.	the nurse gave complete explanations.	1	2	3	4	5	6	7
16.	I felt more like a case than an individual with the nurse.	1	2	3	4	5	6	7
17.	the nurse talked down to me.	1	2	3	4	5	6	7
18.	the nurse provided the kind of care that would encourage me to return to this hospital if I were to have another baby.	1	2	3	4	5	6	7
19.	the nurse answered my call signal promptly enough.	1	2	3	4	5	6	7
20.	the nurse told me all she could about what to expect during labor and delivery.	1	2	3	4	5	6	7
21.	the nurse told me all she could about the procedures, treatments, and drugs used after delivery.	1	2	3	4	5	6	7
22.	the nurse told me things that conflicted with what the doctor told me.	1	2	3	4	5	6	7
23.	the nurse was pleasant to have around.	1	2	3	4	5	6	7
24.	the nurse kept her promise when she told me she would return.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:							
25.	I was confident that the nurse would know what to do in an emergency.	1	2	3	4	5	6	7
26.	the nurse showed me how I could care for myself and the baby.	1	2	3	4	5	6	7
27.	the nurse allowed me to share my feelings when I needed to talk to someone.	1	2	3	4	5	6	7
28.	the nurse did things that made me more comfortable.	1	2	3	4	5	6	7
29.	the nurse was thorough.	1	2	3	4	5	6	7
30.	the nurse seemed disorganized and flustered.	1	2	3	4	5	6	7
31.	the nurse made sure I understood the importance of treatment and medications.	1	2	3	4	5	6	7
32.	the nurse made me feel better by talking to me.	1	2	3	4	5	6	7
33.	the nurse helped me to understand the childbirth experience.	1	2	3	4	5	6	7
34.	the nurse was available when I needed support.	1	2	3	4	5	6	7
35.	the nurse really seemed to know what she was talking about.	1	2	3	4	5	6	7
36.	the nurse acted like I could not understand the medical explanations of the childbirth experience when, in fact, I really could have.	1	2	3	4	5	6	7

No.	Items	STRONGLY DISAGREE	DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEUTRAL	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE
	Considering the care I received:								
37.	the nursed failed to consider my opinions and preferences regarding my plan of care.	1	2	3	4	5	6	7	
38.	the nurse was gentle in caring for me.	1	2	3	4	5	6	7	
39.	the nurse seemed reluctant to give me assistance when I needed it.	1	2	3	4	5	6	7	
40.	the nurse gave directions at just the right speed.	1	2	3	4	5	6	7	
41.	the nurse understood me when I shared my problems.	1	2	3	4	5	6	7	
42.	I felt secure when the nurse was giving direct care to me.	1	2	3	4	5	6	7	

Source: Adapted from the LaMonica/Oberst Patient Satisfaction Scale.

APPENDIX C:

CONSENT FORM

APPENDIX C

CONSENT FORM

Project Title:

Patient Satisfaction: Congruency Between Expectations and Perceived Care Received, and Stability of the Construct Over Time.

Principle Investigator:
Elizabeth J. White
R.N., B.Sc.N.
M.N. Candidate
464-1007

Advisor:
Dr. P.A. Field
Professor at U. of A.
Faculty of Nursing
432-6248

The investigator is a graduate student in the Master's of Nursing Program at the University of Alberta and the study is part of the requirements for the M.N. degree. Satisfaction of parents with care is of concern to nurses, but work needs to be done on developing questionnaires that can be used to collect information across different hospitals if care is to be improved.

I understand the objectives of this study are; to see if my expectations about nursing care have been met, and to see if the opinions I have now about the nursing care I received changes after I go home.

I understand I am to respond to the first questionnaire before I leave the hospital and that I am to complete the second questionnaire approximately six weeks from the day of birth. I have seen the data collection sheet and I understand some of this information will be obtained from my chart. I have been informed each questionnaire takes between 25 - 30 minutes to complete.

The investigator is not a member of the hospital staff and will not disclose my individual responses to any of the hospital personnel. Information provided to the hospital personnel will be presented as a group response to protect my identity. My name will not appear in any report or document. My responses will be kept in a locked drawer until the investigation is completed at which time the questionnaire papers which I completed will be destroyed.

The instructions for completing the questionnaires have been explained to me and I know I am free to withdraw from the study at anytime without affecting my medical or nursing care. If I do not complete the second questionnaire I understand the information provided by the first questionnaire will be used for the first part of the study.

Although I may not benefit from this study directly, it is anticipated that once the study is completed, the information obtained may be of value to maternity care in the future.

THIS IS TO CERTIFY THAT I, _____
have given my consent to participate in the above research project. I hereby give my permission to Elizabeth White to obtain information from my chart. I agree to complete one questionnaire now and another one in six weeks. I know that I am to receive a telephone call prior to being sent the second questionnaire. I acknowledge the receipt of a copy of the consent form.

Any concerns or questions I have related to the study may be directed to Mrs. Barbara Geyer who is the Director of Nursing.

_____ _____
Signature of Patient Date

_____ _____
Signature of Witness Occupation of Witness

APPENDIX D:

TABLES FOR CHAPTER IV

Table D.1

Internal Consistency Estimates for the Modified LOPSS

	Alpha coefficients		
	Expectations Scale	Satisfaction Scale Time 1	Satisfaction Scale Time 2
Total Scale (41 items)	.93	.96	.96
Dissatisfaction Subscale (17 items)	.81	.90	.89
Interpersonal Support Subscale (13 items)	.91	.91	.93
Good Impression Subscale (11 items)	.87	.92	.93
	n = 132	n = 137	n = 110

Table D.2

Variance Explained by Each Factor for Each Set of Factor Analysis

Scale Analyses	Factor 1	Factor 2	Factor 3
Expectations Scale			
Mean Substitution *(PC)			
Variance Explained	33.3	8.5	5.2
Cumulated Total Variance	33.3	41.8	47.0
Expectations Scale			
Listwise Deletion (PC)			
Variance Explained	33.9	8.0	6.3
Cumulated Total Variance	33.9	41.9	48.2
Expectations Scale			
Pairwise Deletion **(PAF)			
Variance Explained	32.5	7.4	3.5
Cumulated Total Variance	32.5	34.8	43.4
Satisfaction Scale (First Measurement)			
Mean Substitution (PC)			
Variance Explained	41.1	5.9	4.4
Cumulated Total Variance	41.1	47.0	51.4
Satisfaction Scale (First Measurement)			
Listwise Deletion (PC)			
Variance Explained	41.9	6.1	4.5
Cumulated Total Variance	41.9	48.0	52.5
Satisfaction Scale (First Measurement)			
Pairwise Deletion (PAF)			
Variance Explained	40.1	4.8	3.3
Cumulated Total Variance	40.1	44.9	48.3
Satisfaction Scale (Second Measurement)			
Mean Substitution (PC)			
Variance Explained	46.4	6.4	4.7
Cumulated Total Variance	46.4	52.8	57.5

Table D.2 (continued)

Scale Analyses	Factor 1	Factor 2	Factor 3
Satisfaction Scale (Second Measurement) Listwise Deletion (PC)			
Variance Explained	43.9	6.4	5.1
Cumulated Total Variance	43.9	50.3	55.4
Satisfaction Scale (Second Measurement) Pairwise Deletion (PAF)			
Variance Explained	45.7	5.2	3.7
Cumulated Total Variance	45.7	50.9	54.6

* PC = principle component
** PAF = principle axis factor

Table D.3

Comparisons of Factor Loadings for the Rotated-Factor Matrix of the LOPSS (n = 664) and the Modified LOPSS Satisfaction Scale (first measurement) (n = 148)

Item Number	LOPSS			Modified LOPSS		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Dissatisfaction						
1	.53	.23	.08	.70	.29	.25
4	.61	.13	.12	**.48	.45	.11
*6	.64	.19	.16	.30	.17	.46
7	.62	.14	.14	.42	.07	.07
9	.56	.11	.17	.62	.08	.37
*13	.64	.16	.15	.24	.12	.66
*16	.60	.14	.21	.39	.20	.53
*17	.60	.11	.16	.25	.05	.65
19	.56	.26	.11	.41	.24	.28
*22	.48	.24	.04	.04	.09	.45
24	.53	.14	.18	.59	.20	.25
29	.55	.24	.18	.65	.33	.22
*30	.59	.16	.12	.38	.05	.51
31	.51	.24	.14	**.43	.48	.21
*36	.54	.32	.14	.14	.34	.68
*37	.60	.31	.10	.14	.21	.56
*39	.62	.10	.14	.11	.08	.58
Interpersonal Support						
***20 & 21	.14	.48	.34	.20(.23)	.72(.65)	.17(.12)
25	.18	.49	.39	.49	.26	.30
26	.14	.59	.28	**.46	.45	.10
27	.24	.71	.20	**.45	.51	.07

Table D.3 (continued)

Item Number	LOPSS			Modified LOPSS		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Interpersonal Support (continued)						
28	.23	.53	.38	.56	.33	.30
32	.22	.69	.28	**.49	.56	.23
33	.22	.71	.22	.16	.78	.18
34	.34	.65	.28	**.55	.55	.25
35	.27	.69	.28			
38	.32	.48	.35	.66	.18	.37
40	.27	.55	.28	.41	.30	.24
41	.28	.74	.20	**.48	.41	.22
42	.24	.64	.31	.54	.26	.21
Good Impression						
2	.09	.13	.68	.52	.15	.35
3	.08	.24	.64	.65	.35	.15
5	.18	.18	.61	**.58	.20	.41
8	.22	.32	.56	.70	.16	.26
10	.16	.32	.61	.70	.21	.26
11	.28	.33	.62	.66	.32	.11
12	.29	.42	.61	.50	.29	.38
14	.25	.38	.56	.69	.18	.09
15	.34	.39	.51	.58	.35	.24
18	.16	.38	.44	.62	.30	.18
23	.30	.42	.46	.61	.32	.29

* Negatively worded items (see Appendix B for actual wording)
** Items loading on more than one factor
*** Items 20 and 21 were derived from one item from the LOPSS

Table D.4

Ordered Factor Loadings for Modified LOPSS Satisfaction Scale First Measurement: Varimax Rotation, Pairwise Deletion

Item No.	Statements	Factor 1	Factor 2	Factor 3
Factor One				
8	recognized my need for physical care	.70	.16	.26
10	was easy to understand	.70	.21	.26
1	was attentive	.70	.29	.25
14	willing to answer questions	.69	.18	.09
38	was gentle	.66	.18	.37
11	enjoyed caring for me	.66	.32	.11
29	was thorough	.65	.33	.22
3	made helpful suggestions	.65	.35	.15
9	was friendly	.62	.08	.37
18	would return to this hospital	.62	.30	.18
23	was pleasant	.61	.32	.29
24	kept promise to return	.59	.20	.25
15	gave complete explanations	.58	.35	.24
5	treated with respect	.58	.20	.41
28	made me more comfortable	.56	.33	.28
42	felt secure with direct care	.54	.26	.21
2	skillful in her work	.52	.15	.35
12	my care was her priority	.50	.29	.38
25	confident in an emergency	.49	.26	.30
41	understood my problems	.48	.41	.22
4	used the information I gave	.48	.45	.11
26	showed me care for myself and the baby	.46	.45	.10

Table D.4 (continued)

Item No.	Statements	Factor 1	Factor 2	Factor 3
7	followed through quickly with care	.42	.07	.07
40	gave directions at the right speed	.41	.30	.24
19	answered the call bell promptly	.41	.24	.28
Factor Two				
33	helped me understand the childbirth experience	.16	.78	.18
20	told me what to expect for labour and delivery	.20	.72	.17
21	told me what to expect after delivery	.23	.65	.12
32	made me feel better by talking to me	.49	.56	.23
34	was available to provide support	.55	.55	.25
27	allowed me to share my feelings	.45	.51	.07
31	ensured understanding of treatment and medication	.43	.48	.21
Factor Three				
36	acted like I could not understand when I could have	.14	.34	.68
13	was impatient	.24	.12	.66
17	talked down to me	.25	.05	.65
39	was reluctant to give assistance	.11	.08	.58
37	failed to consider my opinions and preferences	.14	.21	.56
16	more like a case than an individual	.39	.20	.53
30	seemed disorganized and flustered	.38	.05	.51
6	more interested in the task than listening to my concerns	.30	.17	.46
22	told me things that conflicted with the doctor	.04	.09	.45

Table D.5

Comparisons of Items Loading on Each Factor for Modified LOPSS Expectations and Satisfaction Scales

(Using Pairwise Deletion for Missing Values)

Item No.	Expectations Scale	Satisfaction *Scale 1	Satisfaction *Scale 2
1 **	1	1	1
2	2	1	1
3	2	1	1
4	1	1 & 2	-
5	1	1	2
6 **	3	3	3
7	-	1	1
8 **	1	1	1
9	1	1	1 & 3
10 **	1	1	1
11	1	1	1 & 2
12	1	1	1 & 2
13 **	3	3	3
14	1	1	1, 2 & 3
15	1	1	1 & 2
16 **	3	3	3
17 **	3	3	3
18 **	1	1	1
19	2	1	2
20	1	2	2
21	1	2	2
22 **	3	3	3
23	1	1	1 & 3
24	2	1	1 & 2

Table D.5 (continued)

Item No.	Expectations Scale	Satisfaction *Scale 1	Satisfaction *Scale 2
25	-	1	1
26	1	1 & 2	1 & 2
27	1	1 & 2	2
28	1	1	1 & 2
29	2	1	1
30	2 & 3	3	3
31	1	1 & 2	2
32	1	1 & 2	1 & 2
33	1	2	2
34	1	1 & 2	2
36 **	3	3	3
37 **	3	3	3
38 **	1	1	1
39	2	3	3
40	1	1	1 & 2
41	1	1 & 2	2
42	1	1	1 & 2

* Scale (1) first measurement; (2) Second measurement
** Items loading on same factor for all three loadings

Table D.6

Intersubscale Correlations for the Proposed Dimensions of Patient Satisfaction with Nursing Care

	Dissatisfaction	Interpersonal Support	Good Impression
A. Satisfaction Scale - first measurement			
Dissatisfaction	1.00		
Interpersonal Support	.75	1.00	
Good Impression	.80	.81	1.00
N = 148 $p < .001$ for each of the above			
B. Satisfaction Scale - second measurement			
Dissatisfaction	1.00		
Interpersonal Support	.80	1.00	
Good Impression	.84	.80	1.00
N = 120 $p < .001$ for each of the above			
C. Expectations Scale			
Dissatisfaction	1.00		
Interpersonal Support	.61	1.00	
Good Impression	.61	.84	1.00
N = 148 $p < .001$ for each of the above			

Table D.7

Satisfaction Means for the Two Satisfaction Measurements and by Parity

	Primiparas	Multiparas	Time Total x
Time 1	5.98	5.95	5.96
Time 2	5.60	5.70	5.65
Parity Total x	5.79	5.82	Grand x 5.81

Time n = 120
Parity n = 60 per level

Table D.8

Two-Way ANOVA Repeated Measures Summary Table
Satisfaction: Parity by Time

Source	Sum of Squares	Degrees of Freedom	Mean Squares	F-Ratio
Parity	.08	1	.08	.07* (N.S.)
Between Groups	136.83	118		
Time	5.95	1	5.95	38.34 ($p < .01$)
Parity by Time	.30	1	.30	1.9* (N.S.)
Within Groups	18.30	118	.16	

* (N.S.) = Not Significant

Table D.9

Comparison of the Relationship of Expectation Responses to the Two Sets of Satisfaction Responses: Frequencies and Percentages

Item Number	Expectations and Satisfaction 1		Expectations and Satisfaction 2	
	Frequency	Percentage	Frequency	Percentage
1	* 126/147	85.7	* 102/117	87.2
2	140/147	95.2	113/118	95.8
3	128/147	87.1	98/118	83.1
4	124/145	85.5	86/117	73.5
5	124/147	84.4	97/116	83.6
6	80/147	54.4	62/118	52.5
7	103/144	71.5	88/116	75.9
8	123/146	84.2	95/117	81.2
9	127/147	86.4	99/118	83.9
10	132/145	91.0	102/118	86.4
11	117/144	81.3	90/117	76.9
12	118/146	80.8	79/119	66.4
13	107/148	72.3	92/120	76.7
14	115/147	78.2	95/120	79.2
15	117/147	79.6	89/119	74.8
16	95/147	64.6	68/118	57.6
17	118/146	80.8	92/119	77.3
18	114/148	77.0	87/120	72.5
19	107/148	72.3	80/119	67.2
20	102/144	70.8	70/115	60.9
21	100/148	67.6	71/120	59.2
22	109/148	73.6	83/120	69.2

Table D.9 (continued)

Item Number	Expectations and Satisfaction 1		Expectations and Satisfaction 2	
	Frequency	Percentage	Frequency	Percentage
23	120/148	81.1	94/120	78.3
24	112/147	76.2	81/120	67.5
25	138/148	93.2	100/120	83.3
26	118/148	79.7	96/120	80.0
27	111/147	75.5	88/119	73.9
28	125/147	85.0	89/119	74.8
29	136/147	92.5	98/119	82.4
30	134/147	91.2	110/119	92.4
31	120/147	81.6	85/119	71.4
32	109/147	74.1	86/119	72.3
33	101/147	68.7	79/119	66.4
34	114/148	77.0	80/120	66.7
36	105/147	71.4	81/119	68.1
37	106/147	72.1	81/120	67.5
38	122/148	82.4	98/120	81.7
39	123/147	83.7	88/120	73.3
40	111/145	76.6	92/118	78.0
41	105/148	70.9	81/120	67.5
42	126/148	85.1	102/120	85.0
	Average	79.1	Average	73.2

* Number of Cases vary by number of valid cases for each item

Table D.10

Pearson Product-Moment Correlation Coefficients for
Means Calculated from Expectations and Satisfaction Measures

	Expectations	Satisfaction Measure 1	Satisfaction Measure 2
Expectations n = 148	1.00		
Satisfaction Measure 1 n = 148	.44 $p < .001$	1.00	
Satisfaction Measure 2 n = 120	.24 $p < .004$	.77 $p < .001$	1.00

p is based on 1 tailed significance testing

Table D.11

Means for Satisfaction by Biographic Variables

Variable	No. of Subjects	Satisfaction Time 1 (Range = 1-7)	No. of Subjects	Satisfaction Time 2 (Range = 1-7)
Ward				
1	30	5.78	22	5.67
2	55	5.95	45	5.57
3	59	6.03	49	5.74
4	4	5.08	4	4.91
Age				
15-22	19	5.83	13	5.56
23-25	32	5.87	27	5.58
26-28	40	5.98	33	5.71
39-31	32	5.94	27	5.70
32-39	23	5.93	19	5.61
Education				
8-11 yr	28	6.00	18	5.95
12 yr	44	5.93	36	5.48
13-15 yr	49	5.80	42	5.51
> 15 yr	26	6.06	24	5.90
*** Occupation**				
1	43	5.92	33	5.44
2	20	5.84	16	5.64
3	10	6.26	9	6.05
4	15	5.72	13	5.38
5	12	5.75	10	5.67
6	15	5.61	10	5.49
7	23	6.21	21	5.97
8	10	6.15	9	5.77
Type of Labour				
Spontaneous	101	5.92	78	5.69
Augmented	4	6.40	4	5.68
Induced	32	6.02	28	5.67

Table 0.11 (continued)

Variable	No. of Subjects	Satisfaction Time 1 (Range = 1-7)	No. of Subjects	Satisfaction Time 2 (Range = 1-7)
Type of Delivery				
Sponteneous	108	5.91	84	5.65
Forceps	14	6.32	13	6.00
Cesarean	26	5.78	23	5.39
Support Person				
Present	132	5.96	108	5.64
Absent	15	5.60	12	5.61
Prenatal Attendance				
Yes	121	5.97	105	5.66
No	27	5.70	15	5.48
Planned Pregnancy				
Yes	73	5.90	63	5.61
No	60	5.94	46	5.64
Breast Feeding				
Yes	110	5.91	94	5.67
No	30	5.91	20	5.47

* Occupational Groups:
1. Clerical
2. Health Services
3. Teacher
4. Administration/Management
5. Sales
6. Student
7. Service
8. Technical/Religious/Social/Artistic

Table D.12

ANOVA for the Second Measure of Satisfaction by Education

Source	Degree of Freedom	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	4.63	1.54	2.10	.10
Within Groups	116	85.26	.74		
Total	119	89.89			

a. Contrast Coefficient Matrix

	Group 1	Group 2	Group 3	Group 4
Contrast	-1.0	1.0	1.0	-1.0

b. Contrast Summary Table

	Pooled Variance Estimate	Separate Variance Estimate
Value	0.83	-0.83
S. Error	0.33	0.33
T. Value	-2.50	-2.52
D.F.	116	62.5
T. Probability	0.01	0.01